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NOV 17 2005

Scientific and Technical Information Center

SEARCH REQUEST FORM

Requester's Full Name: Robert (Rob) Shio Examiner #: 79521 Date: 11/19/05  
Art Unit: 1026 Phone Number: 2-0707 Serial Number: 10/735,482  
Location (Bldg/Room#): REM (Mailbox #): 5470 Results Format Preferred (circle): PAPER DISK  
\*\*\*\*\*

To ensure an efficient and quality search, please attach a copy of the cover sheet, claims, and abstract or fill out the following:

Title of Invention: process for making aliphatic oligocarbonate diols  
Inventors (please provide full names): Tilhack et al

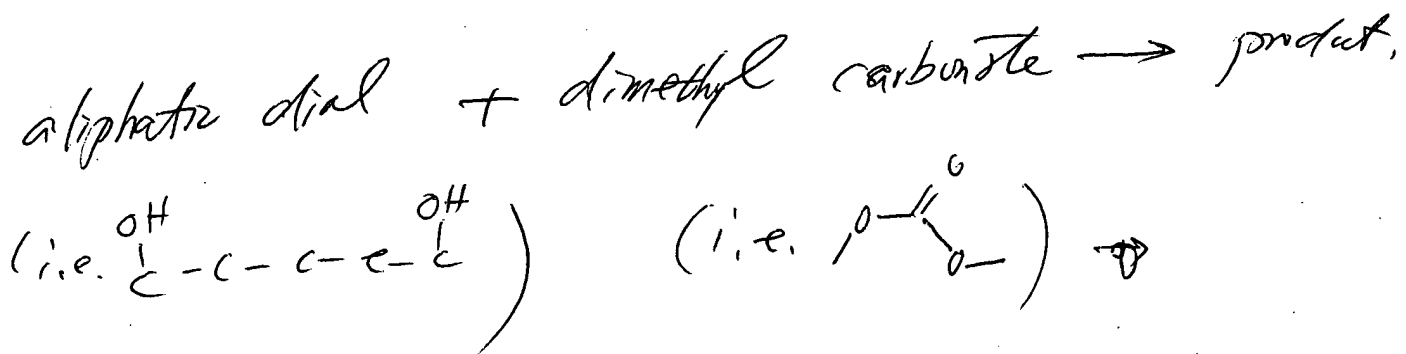
Earliest Priority Date: \_\_\_\_\_

Search Topic:

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc., if known.

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

such a process for making  
aliphatic oligocarbonate diol by (see claim)





# STIC Search Report

## EIC 1700

STIC Database Tracking Number: 171855

**TO: Rei-Tsang Shiao**  
**Location: rem/5A10/5C18**  
**Art Unit : 1626**  
**December 8, 2005**

**Case Serial Number: 10/735492**

**From: Usha Shrestha**  
**Location: EIC 1700**  
**REMSSEN 4B28**  
**Phone: 571/272-3519**  
**usha.shrestha@uspto.gov**

### Search Notes

Examiner Shiao,

The polymers are indexed in CAS Registry file as monomers. Since the applicant compound is indexed as a polymer, aliphatic diol and dimethyl carbonate as two different monomers. I used those two monomers to do this search. If you have any questions please let me know. Thanks.



# STIC Search Results Feedback Form

**EIC17000**

Questions about the scope or the results of the search? Contact *the EIC searcher* or contact:

Kathleen Fuller, EIC 1700 Team Leader  
571/272-2505 REMSEN 4B28

## Voluntary Results Feedback Form

- I am an examiner in Workgroup:  Example: 1713  
➤ Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature  
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to EIC1700 REMSEN 4B28

WHAT IS CLAIMED IS:

1. A process for producing an aliphatic oligocarbonate diol comprising
- 5 a) reacting an aliphatic diol with dimethyl carbonate (DMC), in a transesterification, at an elevated pressure in a reaction mixture,
- b) removing methanol and unreacted dimethyl carbonate at a pressure of from 1 bar to the pressure in a), and
- 10 c) after the reaction of the aliphatic diol and DMC is complete, removing any remaining methanol and any unreacted dimethyl carbonate at a pressure of less than 1 bar, optionally assisted by addition of an inert gas.
2. The process of Claim 1 further comprising adding a catalyst in a).
- 15 3. The process of Claim 1, wherein a) further comprises adding the DMC to the diols in a reaction vessel after the reactor is heated and the pressure is applied.
4. The process of Claim 3, wherein in a) DMC is added slowly at first
- 20 into the reactor, and later the rate of addition is increased to such an extent that a DMC/methanol azeotrope is distilled off in b).
5. The process of Claim 1 comprising adding DMC rapidly in one step in a).
- 25 6. The process according to Claim 1 comprising adding up to 100 % of the required amount of DMC to the diol, heating the reactor, applying the pressure, refluxing all the distillate to the reactor until a defined or constant DMC content is obtained in the distillate, distilling off the DMC/methanol
- 30 mixture and adding the DMC that is lacking compared to the required amount.

7. The process of Claim 1 wherein the elevated pressure in a) is between 1.5 and 100 bar and the temperature is between 100 to 300°C.
8. The process of Claim 7 wherein step b) is performed at a temperature from 160°C to 250°C and at a pressure from 1 to 99 bar.
9. The process of Claim 8 wherein step c) is performed at a temperature from 160°C to 250°C and at a pressure from 1 to 999 mbar.
10. The process of Claim 1 comprising introducing the inert gas as bubbles into the reaction mixture.
11. The process of Claim 1 wherein the inert gas is selected from the group consisting of nitrogen, noble gases, methane, ethane, propane, butane, dimethyl ethers, dry natural gas and dry hydrogen.
12. The process of Claim 1 wherein the inert gas is prepared from a low-boiling liquid selected from the group consisting of pentane, cyclopentane, hexane, cyclohexane, petroleum ether, diethyl ether and methyl tert-butyl ether.
13. The process of Claim 1 comprising removing methanol and unreacted dimethyl carbonate in a gas stream and partially recycling the gas stream to the oligocarbonate.
14. The process of Claim 1 where the total amount of DMC is the sum of the theoretical amount of DMC to be reacted with the aliphatic diol plus the amount of DMC distilled off during the planned reaction time.
15. The process of Claim 1 further comprising d) modification of the molecular weight of the aliphatic oligocarbonate by adding more diol components followed by another transesterification reaction.

16. The process of Claim 1 wherein the aliphatic diol comprises 3 to 20 C atoms.
17. The process of Claim 1 wherein the aliphatic diol comprises an aliphatic ester diol.
18. The process of Claim 17 wherein the aliphatic ester diol comprises an addition product of a diol with a lactone.
19. The process of Claim 18 wherein the lactone is caprolactone or valerolactone.
20. The process of Claim 17 wherein the aliphatic ester diol comprises a condensation product of a diol with a dicarboxylic acid.
21. The process of Claim 20 wherein the dicarboxylic acid is adipic acid, glutaric acid, succinic acid, or malonic acid.
22. The process of Claim 1 wherein the aliphatic diol comprises a polyether polyol.
23. The process of Claim 1 wherein the aliphatic diol is polyethylene glycol, polypropylene glycol or polybutylene glycol.
24. The process of Claim 1 wherein the aliphatic diol is 1,6-hexanediol, 1,5-pentanediol and/or mixtures of 1,6-hexanediol and caprolactone.
25. The process of Claim 17 wherein the aliphatic ester diol is formed in situ during the production of the aliphatic oligocarbonate diol.
26. The process of Claim 1, wherein the molar ratio of diol to DMC in the reaction mixture ranges between 1.01 and 2.0.

27. The process of Claim 2 wherein the catalyst is a soluble transesterification catalyst.

28. The process of Claim 27 wherein the soluble transesterification  
5 catalyst is used in concentrations up to 1000 ppm.

29. The process of Claim 2 wherein the catalyst is an insoluble transesterification catalyst.

The oligocarbonate diols which are produced by the process according to the invention can be used, for example, for the production of plastics polymers, fibres, coatings, lacquers and adhesives, e.g. by reaction with isocyanates, or for the production of epoxides, (cyclic) esters, acids or acid anhydrides. They can be used as binder vehicles, binder vehicle constituents and/or as reactive thinners in polyurethane coatings. They are suitable as components of moisture-hardening coatings, or as binder vehicles or binder vehicle constituents in solvent-containing or aqueous polyurethane coatings. They can also be used as building blocks for the synthesis of polyurethane prepolymers which contain free NCO groups, or in polyurethane dispersions.

The oligocarbonate diols which are produced by the process according to the invention can also be used for the production of synthetic thermoplastic materials such as aliphatic and/or aromatic polycarbonates, thermoplastic polyurethanes, etc.

The invention is further illustrated but is not intended to be limited by the following examples in which all parts and percentages are by weight unless otherwise specified.

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### EXAMPLES

Examples 1-6 according to the invention are examples of some synthesis of oligocarbonate diols with an OH number of 53-58 mg KOH/g and a residual methanol content of <10 ppm, produced by a pressurized procedure. The comparison example demonstrates a synthesis using a pressureless procedure.

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#### Example 1

2316 kg 1,6-hexanediol, 2237 kg ε-caprolactone and 0.54 kg titanium tetraisopropylate were placed in a reaction vessel fitted with a cross-arm agitator. The pressure was increased to 5.2 bar (abs.) with nitrogen. The batch was subsequently heated to 205°C over 3 hours. The pressure was held constant at 5.2 bar by means of a pressure control

30



system. After the desired temperature was reached, 800 kg dimethyl carbonate was added over 4 hours via an immersion tube (about 200 kg/hour). At the same time, a distillate with a DMC content of about 11 % was distilled off into a receiver. Thereafter, the temperature was reduced to 195°C, and a further 1200 kg dimethyl carbonate was metered in over 12 hours (about 100 kg/hour). After the metered addition of 400 kg of the 1200 kg, the DMC content in the distillate was about 15 %, after the metered addition of 800 kg it was about 24 %, and at the end of the metered addition it was about 29 %. After 4 hours of further reaction, the temperature was increased to 200°C and the pressure was reduced over 7 hours from 5.2 bar to 100 mbar. 10 Nm<sup>3</sup> nitrogen were introduced via an immersed inlet tube. The residual methanol was removed. After 4 hours, the OH number was 42.5 mg KOH/g and the viscosity was 25,464 mPa.s. A further 80 kg 1,6-hexanediol were added. After a further 9 hours, the OH number was 50.0 mg KOH/g and the viscosity was 20,748 mPa.s. A further 50 kg 1,6-hexanediol were added. After a further 5 hours, the OH number was 57.9 mg KOH/g and the viscosity was 14,513 mPa.s. The residual methanol content was <10 ppm. The total run time was about 48 hours.

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### Example 2

2316 kg 1,6-hexanediol, 2237 kg ε-caprolactone, 0.54 kg titanium tetraisopropylate and 1000 g dimethyl carbonate were placed in a reaction vessel fitted with a cross-arm agitator. The pressure was increased to 5.2 bar (abs.) with nitrogen. The batch was subsequently heated to 180°C over 2 hours. The pressure was held constant at 5.2 bar by means of a pressure control system. A slight reflux occurred, the liquid from which was returned to the vessel. 1 hour after reaching 180°C, the dimethyl carbonate content in the reflux was about 17 %, and decreased to about 12.5 % after a further 5 hours.

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=> fil reg

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=> d his

FILE 'HCAPLUS' ENTERED AT 13:03:52 ON 08 DEC 2005

L1 1 S US20040143130/PN  
SEL RN

FILE 'REGISTRY' ENTERED AT 13:04:12 ON 08 DEC 2005

L2 17 S E1-E17

FILE 'LREGISTRY' ENTERED AT 13:48:49 ON 08 DEC 2005

L3 STR  
L4 STR

FILE 'REGISTRY' ENTERED AT 13:51:45 ON 08 DEC 2005

L5 4 S L3 AND L4  
L6 193 S L3 AND L4 FUL  
SAV L6 SHI492/A  
L7 2 S L6 AND L2

FILE 'HCAPLUS' ENTERED AT 14:14:28 ON 08 DEC 2005

L8 96 S L6  
L9 82 S L8 (L) PREP/RL  
L10 1 S L9 AND L1  
L11 2 S L9 AND BYP/RL  
L12 6 S L9 AND METHANOL

FILE 'REGISTRY' ENTERED AT 14:36:06 ON 08 DEC 2005

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L14 1 S 74-84-0/RN  
L15 1 S 74-98-6/RN  
L16 1 S 106-97-8/RN  
L17 1 S 115-10-6/RN  
L18 1 S 1333-74-0/RN  
L19 1 S 7727-37-9/RN  
L20 1 S 60-29-7/RN  
L21 1 S 109-66-0/RN  
L22 1 S 110-54-3/RN  
L23 1 S 110-82-7/RN  
L24 1 S 287-92-3/RN  
L25 1 S 1634-04-4/RN  
L26 1 S HELIUM/CN  
L27 1 S 7440-59-7/RN  
L28 1 S NEON/CN  
L29 1 S 7440-01-9/RN  
L30 1 S ARGON/CN  
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L33 1 S 7439-90-9/RN  
L34 1 S XENON/CN  
L35 1 S 7440-63-3/RN  
L36 1 S RADON/CN  
L37 1 S 10043-92-2/RN  
L38 13 S L13-L25  
L39 6 S L27 OR L29 OR L31 OR L33 OR L35 OR L37  
L40 1 S 67-56-1/RN

FILE 'HCAPLUS' ENTERED AT 14:44:59 ON 08 DEC 2005

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 L43 129956 S L40  
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L3 STR

HO~Ak~OH

1 2 3

NODE ATTRIBUTES:

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DEFAULT ECLEVEL IS LIMITED

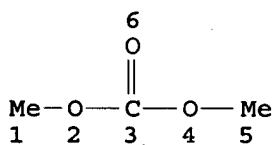
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RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 3

STEREO ATTRIBUTES: NONE

L4 STR



NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 6

STEREO ATTRIBUTES: NONE

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L45 7 SEA FILE=HCAPLUS ABB=ON PLU=ON L11 OR L12 OR L42 OR  
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OR NOBLE OR NATURAL) (A) GAS?)  
L47 8 SEA FILE=HCAPLUS ABB=ON PLU=ON L45 OR L46  
L49 78 SEA FILE=HCAPLUS ABB=ON PLU=ON L9 AND P/DT  
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FILE 'HCAPLUS' ENTERED AT 15:06:05 ON 08 DEC 2005

=> d l54 1-75 ibib abs hitstr hitind

L54 ANSWER 1 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2005:259743 HCAPLUS  
DOCUMENT NUMBER: 142:317551  
TITLE: Preparation of aliphatic oligocarbonate diols  
INVENTOR(S): Hofacker, Steffen; Bachmann, Rolf; Backer,  
Lothar; Witossek, Herbert  
PATENT ASSIGNEE(S): Germany  
SOURCE: U.S. Pat. Appl. Publ., 5 pp.  
CODEN: USXXCO  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005065360	A1	20050324	US 2004-941659	2004 0915
DE 10343471	A1	20050512	DE 2003-10343471	2003 0919
EP 1518879	A2	20050330	EP 2004-21318	2004 0908
EP 1518879	A3	20050427		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
JP 2005089464	A2	20050407	JP 2004-268724	2004 0915
CA 2481978	AA	20050319	CA 2004-2481978	2004 0916
PRIORITY APPLN. INFO.:			DE 2003-10343471	A 2003 0919

AB The present invention relates to an improved process for preparing aliphatic oligocarbonate diols by transesterifying di-Me carbonate (DMC) with aliphatic diols. Thus, 9270 kg 1,6-hexanediol and 8950 kg  $\epsilon$ -caprolactone were stirred at 70°, 1.5 kg titanium tetraisopropoxide was added therein, increased the reactor pressure to 5.2 bar by nitrogen, heated at 200°, 7300 kg di-Me carbonate was added therein, distilled off methanol formed, decreased temperature 180°, reduced the reactor pressure to atmospheric pressure within 3 h, reduced the reactor pressure to 90 mbar within 12 h, 2 m<sup>3</sup>/h nitrogen was introduced to remove residual methanol, the vacuum was reduced to 30 mbar, heated at 180° for 26 h under <60 mbar, 250 kg 1,6-hexanediol was added therein, 2.0 kg di-Bu phosphate was added therein, and cooled to 100° to give an oligocarbonate with number average mol. weight 2000, hydroxy number 57.8 mg-KOH/g, viscosity 15,800 mPa-s at 23°, OH functionality 1.94, and terminal Me ether content 1.7 mol%.

IT 282534-15-0DP,  $\epsilon$ -Caprolactone-dimethyl carbonate-1,6-hexanediol copolymer, diol-terminated (oligomer; preparation of aliphatic oligocarbonate diols)

RN 282534-15-0 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and 2-oxepanone (9CI) (CA INDEX NAME)

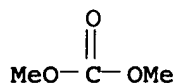
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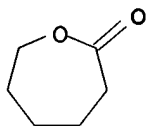
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HO-(CH<sub>2</sub>)<sub>6</sub>-OH

CM 2

CRN 616-38-6  
CMF C3 H6 O3

CM 3

CRN 502-44-3  
CMF C6 H10 O2

IC ICM C07C069-96  
 INCL 558265000  
 CC 37-3 (Plastics Manufacture and Processing)  
 IT 282534-15-0DP,  $\epsilon$ -Caprolactone-dimethyl  
 carbonate-1,6-hexanediol copolymer, diol-terminated  
 (oligomer; preparation of aliphatic oligocarbonate diols)

L54 ANSWER 2 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2005:259742 HCAPLUS  
 DOCUMENT NUMBER: 142:317550  
 TITLE: Preparation of aliphatic oligocarbonate  
 polyols by transesterification  
 INVENTOR(S): Hofacker, Steffen; Witossek, Herbert; Backer,  
 Lothar  
 PATENT ASSIGNEE(S): Germany  
 SOURCE: U.S. Pat. Appl. Publ., 6 pp.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2005065359	A1	20050324	US 2004-941656	2004 0915
DE 10343472	A1	20050414	DE 2003-10343472	2003 0919
EP 1520869	A1	20050406	EP 2004-21317	2004 0908

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,  
MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ,  
EE, HU, PL, SK, HR

JP 2005089463 A2 20050407 JP 2004-268720

2004  
0915

CA 2481997 AA 20050319 CA 2004-2481997

2004  
0916

PRIORITY APPLN. INFO.:

DE 2003-10343472 A

2003  
0919

AB The present invention relates to an improved process for preparing aliphatic oligocarbonate polyols by transesterifying di-Me carbonate (DMC) with an aliphatic polyol component. Thus, 1,6-hexanediol 14,940, di-Me carbonate 5292, and ytterbium acetylacetonate 3.6 kg were heated at 70°, increased pressure at 5.2 bar, heated at 150° for 1 h, decreased pressure at 2.2 bar within 5 h, distilled off methanol/dimethyl carbonate mixture at 2.2 bar for 1 h, increased pressure at 5.2 bar, 5292 kg di-Me carbonate was added therein and refluxed for 1 h, repeated distillation procedure, increased pressure at 4.2 bar, 3699 di-Me carbonate was added therein and refluxed for 1 h, removed methanol, reduced pressure 30 mbar, heated at 170° for 4 h and 190°, and addnl. 1,6-hexanediol (total 545 kg) was added therein to correct the mixture, giving a oligocarbonate diol with number average mol. weight 200, hydroxy number 54.3 mg-KOH/g, viscosity at 75° 2620 mPa-s, and color number (APHA) 37.

IT 101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer (oligomer; preparation of aliphatic oligocarbonate polyols by transesterification)

RN 101325-00-2 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI) (CA INDEX NAME)

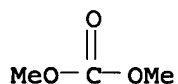
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CMF C6 H14 O2

HO-(CH<sub>2</sub>)<sub>6</sub>-OH

CM 2

CRN 616-38-6  
CMF C3 H6 O3



IC ICM C07C069-96  
INCL 558265000  
CC 37-3 (Plastics Manufacture and Processing)

IT 101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer  
(oligomer; preparation of aliphatic oligocarbonate polyols by transesterification)

L54 ANSWER 3 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2004:984862 HCAPLUS

DOCUMENT NUMBER: 141:411403

TITLE: Ytterbium acetylacetonate as catalyst for the preparation of aliphatic oligocarbonate-polyols

INVENTOR(S): Hofacker, Steffen

PATENT ASSIGNEE(S): Bayer Materialscience A.-G., Germany

SOURCE: Eur. Pat. Appl., 9 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1477508	A1	20041117	EP 2004-10355	2004 0430
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
DE 10321149	A1	20041202	DE 2003-10321149	2003 0512
CA 2466255	AA	20041112	CA 2004-2466255	2004 0504
US 2004230069	A1	20041118	US 2004-842402	2004 0510
JP 2004339511	A2	20041202	JP 2004-142186	2004 0512
PRIORITY APPLN. INFO.:		DE 2003-10321149	A	2003 0512

AB Aliphatic oligocarbonate-polyols with mol. weight 500 - 5,000, useful in the preparation of polyurethane prepolymers are prepared from aliphatic polyols and organic carbonates in the presence of ytterbium acetylacetonate (I) as transesterification catalyst. Thus, heating 1759 g of 1,6-hexanediol and 0.02 g of I at 160°, heating 1 h at 185°, adding 1245.5 g of di-Me carbonate, removing methanol and the rest of di-Me carbonate, adding 185 g of 1,6-hexanediol and heating 6 h at 180° gave a polymer having OH number 56.5 mg KOH/g, mol. weight 2,000 and viscosity 2,800 mPa s at 75°. This polymer is used by reacting with 4,4'-diphenylmethane diisocyanate at 80° for preparing a polyurethane having NCO-content 8.40 weight% and viscosity 6,980 mPa s at 70°.

IT 101325-00-2P, 1,6-Hexanediol-dimethyl carbonate copolymer  
(polyurethane precursor; ytterbium acetylacetonate as transesterification catalyst for the preparation of aliphatic



oligocarbonate-polyols)

RN 101325-00-2 HCAPLUS  
 CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI)  
 (CA INDEX NAME)

CM 1

CRN 629-11-8

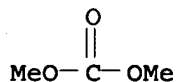
CMF C6 H14 O2

HO-(CH<sub>2</sub>)<sub>6</sub>-OH

CM 2

CRN 616-38-6

CMF C3 H6 O3



IT 123256-09-7P, Dimethyl carbonate-4,4'-diphenylmethane  
 diisocyanate-1,6-Hexanediol copolymer  
 (ytterbium acetylacetonate as transesterification catalyst for  
 the preparation of aliphatic oligocarbonate-polyols)

RN 123256-09-7 HCAPLUS  
 CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and  
 1,1'-methylenebis[4-isocyanatobenzene] (9CI) (CA INDEX NAME)

CM 1

CRN 629-11-8

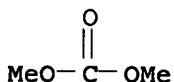
CMF C6 H14 O2

HO-(CH<sub>2</sub>)<sub>6</sub>-OH

CM 2

CRN 616-38-6

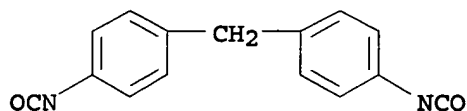
CMF C3 H6 O3



CM 3

CRN 101-68-8

CMF C15 H10 N2 O2



IC ICM C08G064-30  
 ICS C08G018-44; C08G063-64  
 CC 35-3 (Chemistry of Synthetic High Polymers)  
 IT 24937-06-2P, Poly(oxycarbonyloxy-1,6-hexanediyl)  
 101325-00-2P, 1,6-Hexanediol-dimethyl carbonate copolymer  
 (polyurethane precursor; ytterbium acetylacetonate as  
 transesterification catalyst for the preparation of aliphatic  
 oligocarbonate-polyols)  
 IT 123256-09-7P, Dimethyl carbonate-4,4'-diphenylmethane  
 diisocyanate-1,6-Hexanediol copolymer  
 (ytterbium acetylacetonate as transesterification catalyst for  
 the preparation of aliphatic oligocarbonate-polyols)  
 REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE  
 FOR THIS RECORD. ALL CITATIONS AVAILABLE  
 IN THE RE FORMAT

L54 ANSWER 4 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2004:589287 HCAPLUS  
 DOCUMENT NUMBER: 141:125385  
 TITLE: Process for producing aliphatic oligocarbonate  
 diols  
 INVENTOR(S): Tillack, Jorg; Laue, Jorg; Witossek, Herbert;  
 Schlemenat, Andreas  
 PATENT ASSIGNEE(S): Germany  
 SOURCE: U.S. Pat. Appl. Publ., 8 pp., Cont.-in-part of  
 U.S. Ser. No. 180,831.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004143130	A1	20040722	US 2003-735492	2003 1212
DE 10130882	A1	20030116	DE 2001-10130882	2001 0627
US 2003009047	A1	20030109	US 2002-180831	2002 0626
US 6818784	B2	20041116	DE 2001-10130882	2001 0627

PRIORITY APPLN. INFO.: A

US 2002-180831

A2

2002

0626

AB A process for producing an aliphatic oligocarbonate diol comprises:  
(a) reacting an aliphatic diol with di-Me carbonate (DMC), in a transesterification, at an elevated pressure in a reaction mixture;  
(b) removing methanol and unreacted di-Me carbonate at a pressure of from 1 bar to the pressure in (a); and (c) after the reaction of the aliphatic diol and DMC is complete, removing any remaining methanol and any unreacted di-Me carbonate at a pressure of less than 1 bar to uncap the terminal OH groups, optionally assisted by addition of an inert gas.

IT 74-82-8, Methane, uses 74-84-0, Ethane, uses 74-98-6, Propane, uses 106-97-8, Butane, uses 115-10-6, Dimethyl ether 1333-74-0, Hydrogen, uses 7727-37-9, Nitrogen, uses (inert gas; preparation of aliphatic oligocarbonate diols)

RN 74-82-8 HCAPLUS

CN Methane (8CI, 9CI) (CA INDEX NAME)

CH<sub>4</sub>

RN 74-84-0 HCAPLUS

CN Ethane (8CI, 9CI) (CA INDEX NAME)

H<sub>3</sub>C-CH<sub>3</sub>

RN 74-98-6 HCAPLUS

CN Propane (8CI, 9CI) (CA INDEX NAME)

H<sub>3</sub>C-CH<sub>2</sub>-CH<sub>3</sub>

RN 106-97-8 HCAPLUS

CN Butane (8CI, 9CI) (CA INDEX NAME)

H<sub>3</sub>C-CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>3</sub>

RN 115-10-6 HCAPLUS

CN Methane, oxybis- (9CI) (CA INDEX NAME)

H<sub>3</sub>C-O-CH<sub>3</sub>

RN 1333-74-0 HCAPLUS

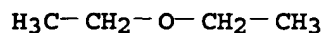
CN Hydrogen (8CI, 9CI) (CA INDEX NAME)

H-H

RN 7727-37-9 HCAPLUS  
CN Nitrogen (8CI, 9CI) (CA INDEX NAME)

N  
|||  
N

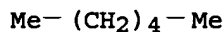
IT 60-29-7, Diethyl ether, uses 109-66-0, Pentane,  
uses 110-54-3, Hexane, uses 110-82-7,  
Cyclohexane, uses 287-92-3, Cyclopentane  
1634-04-4, Methyl tert-butyl ether  
(low-boiling liquid; preparation of aliphatic oligocarbonate diols)  
RN 60-29-7 HCAPLUS  
CN Ethane, 1,1'-oxybis- (9CI) (CA INDEX NAME)



RN 109-66-0 HCAPLUS  
CN Pentane (8CI, 9CI) (CA INDEX NAME)



RN 110-54-3 HCAPLUS  
CN Hexane (8CI, 9CI) (CA INDEX NAME)



RN 110-82-7 HCAPLUS  
CN Cyclohexane (8CI, 9CI) (CA INDEX NAME)



RN 287-92-3 HCAPLUS  
CN Cyclopentane (8CI, 9CI) (CA INDEX NAME)



RN 1634-04-4 HCAPLUS  
CN Propane, 2-methoxy-2-methyl- (9CI) (CA INDEX NAME)

t-Bu-O-Me

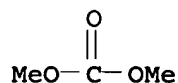
IT 67-56-1P, Methanol, preparation  
(preparation of aliphatic oligocarbonate diols)  
RN 67-56-1 HCAPLUS  
CN Methanol (8CI, 9CI) (CA INDEX NAME)

H<sub>3</sub>C-OH

IT 101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer  
282534-15-0P, .ε.-Caprolactone-dimethyl  
carbonate-1,6-hexanediol copolymer  
(preparation of aliphatic oligocarbonate diols)  
RN 101325-00-2 HCAPLUS  
CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI)  
(CA INDEX NAME)  
CM 1  
CRN 629-11-8  
CMF C6 H14 O2

HO-(CH<sub>2</sub>)<sub>6</sub>-OH

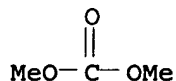
CM 2  
CRN 616-38-6  
CMF C3 H6 O3



RN 282534-15-0 HCAPLUS  
CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and  
2-oxepanone (9CI) (CA INDEX NAME)  
CM 1  
CRN 629-11-8  
CMF C6 H14 O2

HO-(CH<sub>2</sub>)<sub>6</sub>-OH

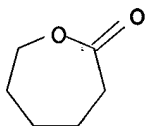
CM 2  
CRN 616-38-6  
CMF C3 H6 O3



CM 3

CRN 502-44-3

CMF C6 H10 O2



IC ICM C07C069-96

INCL 558265000

CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)

IT Natural gas, uses

Noble gases, uses

(inert gas; preparation of aliphatic oligocarbonate diols)

IT 74-82-8, Methane, uses 74-84-0, Ethane, uses  
 74-98-6, Propane, uses 106-97-8, Butane, uses  
 115-10-6, Dimethyl ether 1333-74-0, Hydrogen,  
 uses 7727-37-9, Nitrogen, uses

(inert gas; preparation of aliphatic oligocarbonate diols)

IT 60-29-7, Diethyl ether, uses 109-66-0, Pentane,  
 uses 110-54-3, Hexane, uses 110-82-7,  
 Cyclohexane, uses 287-92-3, Cyclopentane  
 1634-04-4, Methyl tert-butyl ether

(low-boiling liquid; preparation of aliphatic oligocarbonate diols)

IT 67-56-1P, Methanol, preparation

(preparation of aliphatic oligocarbonate diols)

IT 101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer  
 282534-15-0P, .ε.-Caprolactone-dimethyl  
 carbonate-1,6-hexanediol copolymer 724457-45-8P

(preparation of aliphatic oligocarbonate diols)

L54 ANSWER 5 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:886672 HCAPLUS

DOCUMENT NUMBER: 139:338362

TITLE: Improved transesterification process for the  
manufacture of poly(alkylene carbonates)INVENTOR(S): Sivaram, Swaminathan; Pokharkar, Varsha  
BaburaoPATENT ASSIGNEE(S): Council of Scientific and Industrial Research,  
India

SOURCE: Indian, 16 pp.

CODEN: INXXAP

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

## PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
IN 178867	A	19970705	IN 1992-DE927	1992 1014

## PRIORITY APPLN. INFO.:

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IN 1992-DE927	1992 1014
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AB Poly(alkylene carbonates) having mol. weight 5000-20,000 were manufactured by heating diols with 2-5-fold excess dialkyl carbonates in the presence of a catalyst selected from organotin compds. comprising Sn in valence state +4, at a temperature of 90-220°, over 8-15 h at atmospheric or subatmospheric pressure. For example, heating a stirred mixture of 0.22 mol 1,4-butanediol and 0.22 mol Bu<sub>2</sub>SnO to 140°, cooling to 90°, adding 0.5 mol (MeO)<sub>2</sub>CO dropwise over 30-40 min and heating the mixture to 130-180° over 4 h with removal of MeOH/(MeO)<sub>2</sub>CO azeotrope gave polycarbonate oligomer with 70% conversion. The oligomer (10.0 g) was heated for 2 h at 175°/0.5 mmHg and at 190-200° over 4 h with 0.2 g 1,3-diphenoxytetra-butyl-distannoxane to give poly(butylene carbonate) having inherent viscosity 0.54 dL/g; Mn 7960, glass temperature 53° and crystallinity 49%.

IT 101325-00-2P, 1,6-Hexanediol-Dimethyl carbonate copolymer  
 146789-33-5P, 1,4-Butanediol-Dimethyl carbonate copolymer  
 171926-74-2P, 1,8-Octanediol-Dimethyl carbonate copolymer  
 171926-77-5P, Dimethyl carbonate-Polytetramethylene glycol copolymer  
 (improved transesterification process for manufacture of poly(alkylene carbonates))

RN 101325-00-2 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI)  
 (CA INDEX NAME)

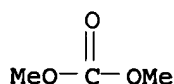
CM 1

CRN 629-11-8  
 CMF C6 H14 O2

HO-(CH<sub>2</sub>)<sub>6</sub>-OH

CM 2

CRN 616-38-6  
 CMF C3 H6 O3



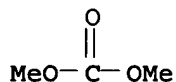
RN 146789-33-5 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol (9CI)  
(CA INDEX NAME)

CM 1

CRN 616-38-6

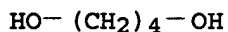
CMF C3 H6 O3



CM 2

CRN 110-63-4

CMF C4 H10 O2



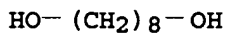
RN 171926-74-2 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,8-octanediol (9CI)  
(CA INDEX NAME)

CM 1

CRN 629-41-4

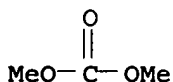
CMF C8 H18 O2



CM 2

CRN 616-38-6

CMF C3 H6 O3



RN 171926-77-5 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with  $\alpha$ -hydro- $\omega$ -  
hydroxypoly(oxy-1,4-butanediyl) (9CI) (CA INDEX NAME)

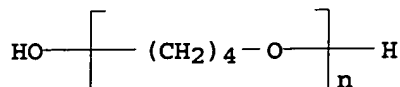
CM 1

CRN 25190-06-1

CMF (C4 H8 O)<sub>n</sub> H2 O

CCI PMS

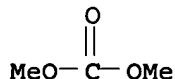




CM 2

CRN 616-38-6

CMF C3 H6 O3



IC ICM C08G063-62  
 CC 35-5 (Chemistry of Synthetic High Polymers)  
 IT 24937-06-2P, 1,6-Hexanediol-Dimethyl carbonate copolymer, sru  
 25805-40-7P, 1,4-Butanediol-Dimethyl carbonate copolymer, sru  
 26894-28-0P, 1,4-Cyclohexanedimethanol-Dimethyl carbonate  
 copolymer, sru 101325-00-2P, 1,6-Hexanediol-Dimethyl  
 carbonate copolymer 146789-33-5P, 1,4-Butanediol-  
 Dimethyl carbonate copolymer 171926-74-2P,  
 1,8-Octanediol-Dimethyl carbonate copolymer 171926-75-3P,  
 Dimethyl carbonate-1,8-Octanediol copolymer, sru 171926-76-4P,  
 Dimethyl carbonate-1,4-Cyclohexanedimethanol copolymer  
 171926-77-5P, Dimethyl carbonate-Polytetramethylene glycol  
 copolymer 616239-82-8P, Dimethyl carbonate-1,4-  
 Cyclohexanedimethanol-1,4-Cyclohexanediol copolymer  
 (improved transesterification process for manufacture of  
 poly(alkylene carbonates))

L54 ANSWER 6 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2003:396689 HCAPLUS  
 DOCUMENT NUMBER: 138:390577  
 TITLE: Cosmetic preparation containing polycarbonates  
 INVENTOR(S): Kawa, Rolf; Zander, Lars; Westfechtel, Alfred  
 PATENT ASSIGNEE(S): Cognis Deutschland G.m.b.H. & Co. K.-G.,  
 Germany  
 SOURCE: PCT Int. Appl., 62 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003041676	A1	20030522	WO 2002-EP12373	2002 1106

&lt;--

W: AU, BR, CA, CN, JP, KR, MX, US  
 RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR,  
 IE, IT, LU, MC, NL, PT, SE, SK, TR  
 DE 10155769 A1 20030522 DE 2001-10155769  
 2001

1114

EP 1443896 A1 20040811 EP 2002-802990

2002  
1106

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,  
MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ,  
EE, SK

JP 2005508998 T2 20050407 JP 2003-543563

2002  
1106

US 2005090637 A1 20050428 US 2003-495391

2002  
1106

PRIORITY APPLN. INFO.:

DE 2001-10155769 A

2001  
1114

WO 2002-EP12373 W

2002  
1106

AB The invention relates to cosmetic and pharmaceutical preps.  
containing polycarbonates with a mean molar mass of 300 to 100 000.  
Polycarbonates used are prepared by the reaction of a dimer diol or  
 $\alpha,\omega$ -alkane diol, especially  $\alpha,\omega$ -pentane diol or  
 $\alpha,\omega$ -hexane diol with dimethyl-, or di-Et carbonate.  
The agents are characterized by improved water resistance and  
sensoric properties. The use of said polycarbonates is  
particularly advantageous in sunscreens, antiperspirants and  
insect repellents. Thus Polycarbonates I-VII where synthesized  
and used in sunscreens. A sunscreen contained (weight/weight%):  
Eumulgin VL75 4.0; Myritol 331 7.0; Cetirol OE 6.0; Eutanol G16  
3.0; Polycarbonate I (Sovermol 913/1) 4.0; Neo Heliopan AV 7.4;  
Parsol 1789 2.0; Carbopol 2984 0.2; glycerin 5.0; sodium hydroxide  
to pH 7; preservative q.s.; water to 100.

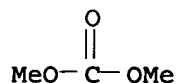
IT 90385-29-8P  
(Polycarbonate VI; cosmetic preparation containing polycarbonates)

RN 90385-29-8 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,10-decanediol (9CI)  
(CA INDEX NAME)

CM 1

CRN 616-38-6  
CMF C3 H6 O3



CM 2

CRN 112-47-0

CMF C10 H22 O2

 $\text{HO}-(\text{CH}_2)_{10}-\text{OH}$ 

IT 527704-69-4P

(Polycarbonate VII; cosmetic preparation containing polycarbonates)

RN 527704-69-4 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,10-decanediol and 1,12-dodecanediol (9CI) (CA INDEX NAME)

CM 1

CRN 5675-51-4

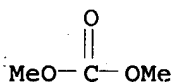
CMF C12 H26 O2

 $\text{HO}-(\text{CH}_2)_{12}-\text{OH}$ 

CM 2

CRN 616-38-6

CMF C3 H6 O3



CM 3

CRN 112-47-0

CMF C10 H22 O2

 $\text{HO}-(\text{CH}_2)_{10}-\text{OH}$ 

IC ICM A61K007-42

ICS A61K007-48

CC 62-4 (Essential Oils and Cosmetics)

IT 66837-12-5P, Poly(oxycarbonyloxy-1,10-decanediyl)

90385-29-8P

(Polycarbonate VI; cosmetic preparation containing polycarbonates)

IT 527704-69-4P

(Polycarbonate VII; cosmetic preparation containing polycarbonates)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L54 ANSWER 7 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:394866 HCAPLUS

DOCUMENT NUMBER: 138:385954

TITLE: Catalysts for the manufacture of aliphatic  
oligocarbonate diols by transesterification of

INVENTOR(S): organic carbonates with polyols  
 Hofacker, Steffen; Guertler, Christoph;  
 Tillack, Joerg  
 PATENT ASSIGNEE(S): Bayer Aktiengesellschaft, Germany  
 SOURCE: Eur. Pat. Appl., 12 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1312632	A1	20030521	EP 2002-24991	2002 1107

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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,  
 MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ,  
 EE, SK

DE 10156896	A1	20030528	DE 2001-10156896	2001 1120
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CA 2411930	AA	20030520	CA 2002-2411930	2002 1115
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US 2003125576	A1	20030703	US 2002-298705	2002 1118
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US 6894182	B2	20050517		
CN 1420134	A	20030528	CN 2002-152740	2002 1120

JP 2003192783	A2	20030709	JP 2002-336209	2002 1120
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PRIORITY APPLN. INFO.:			DE 2001-10156896	A	2001 1120
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AB Metalorg. compds., complexes or salts of noble metals or group III metals (with a proviso) are useful for the title purpose. For example, heating a mixture of 4.15 g CO(OMe)<sub>2</sub> and 5.85 g 1,6-hexanediol for 6 h at 80° in the presence of 5.7 + 10-6 mol erbium 2,2,6,6-tetramethyl-3,5-heptanedionate gave 41.1% oligocarbonate diols, vs. 3.3% with the same amount of dibutyltin dilaurate.

IT 101325-00-2P, Dimethyl carbonate-1,6-Hexanediol copolymer (hydroxy-terminated; catalysts for the manufacture of aliphatic oligocarbonate diols by transesterification of organic carbonates with polyols)

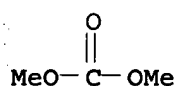
RN 101325-00-2 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI) (CA INDEX NAME)

CM 1

CRN 629-11-8  
CMF C6 H14 O2HO-(CH<sub>2</sub>)<sub>6</sub>-OH

CM 2

CRN 616-38-6  
CMF C3 H6 O3IC ICM C08G064-30  
ICS C08G064-20

CC 35-8 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 67

IT 24937-06-2P, Dimethyl carbonate-1,6-Hexanediol copolymer, sru  
101325-00-2P, Dimethyl carbonate-1,6-Hexanediol copolymer  
(hydroxy-terminated; catalysts for the manufacture of aliphatic  
oligocarbonate diols by transesterification of organic carbonates  
with polyols)REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L54 ANSWER 8 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:386779 HCAPLUS

DOCUMENT NUMBER: 138:386710

TITLE: Low-resilience and high-strength urethane  
rubber and polycarbonate diols therefor

INVENTOR(S): Okubo, Makoto; Sawai, Minoru

PATENT ASSIGNEE(S): Kao Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2003147057	A2	20030521	JP 2001-349782	2001 1115

PRIORITY APPLN. INFO.:

<--  
JP 2001-3497822001  
1115

&lt;--

- AB The diols, producing urethane rubber (foams) useful for sheets, toys, shoe soles, etc., comprise (a)  $(OC_nH_{2n}OCO)$  ( $n = 2-6$ , preferably 6) and (b)  $[O(C_mH_{2m}O)_xCO]$  ( $m = 2-4$ ;  $x = 2-15$ ) in molar ratio of a/b (2-9):(1-8) and satisfy Mn 400-3000. Thus, 1,6-hexanediol, diethylene glycol, and di-Me carbonate were transesterified and polycondensed to give a polycarbonate diol of viscosity (40°) 2864 mPa-s and Mn 989, 100 parts of which was blended with 5 parts ethylene glycol and 1 parts triethylenediamine, kneaded with MDI and Coronate MX (carbodiimide), and injected in a mold to give a cellular sheet showing d. 0.5 g/cm<sup>3</sup>, Asker C hardness 55, and resilience 8%.
- IT 312582-94-8P, Diethylene glycol-dimethyl carbonate-1,6-hexanediol copolymer  
(polycarbonate diols containing hexamethylene units and producing low-resilience and high-strength urethane rubber foams)
- RN 312582-94-8 HCAPLUS
- CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and 2,2'-oxybis[ethanol] (9CI) (CA INDEX NAME)

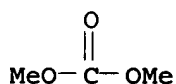
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CRN 629-11-8  
CMF C6 H14 O2



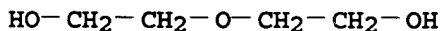
CM 2

CRN 616-38-6  
CMF C3 H6 O3



CM 3

CRN 111-46-6  
CMF C4 H10 O3



- IT 524918-67-0P  
(rubber, cellular; polycarbonate diols containing hexamethylene units and producing low-resilience and high-strength urethane rubber foams)
- RN 524918-67-0 HCAPLUS
- CN Carbonic acid, dimethyl ester, polymer with Coronate MX, 1,2-ethanediol, 1,6-hexanediol, 1,1'-methylenebis[4-isocyanatobenzene] and 2,2'-oxybis[ethanol], block (9CI) (CA INDEX NAME)

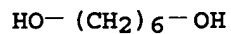
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CRN 196316-51-5  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

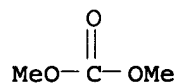
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CRN 629-11-8  
CMF C6 H14 O2



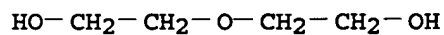
CM 3

CRN 616-38-6  
CMF C3 H6 O3



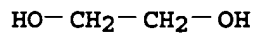
CM 4

CRN 111-46-6  
CMF C4 H10 O3



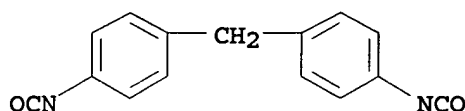
CM 5

CRN 107-21-1  
CMF C2 H6 O2



CM 6

CRN 101-68-8  
CMF C15 H10 N2 O2



IC ICM C08G063-64  
ICS C08G018-44  
CC 39-4 (Synthetic Elastomers and Natural Rubber)  
Section cross-reference(s): 37  
IT 312582-94-8P, Diethylene glycol-dimethyl  
carbonate-1,6-hexanediol copolymer  
(polycarbonate diols containing hexamethylene units and producing  
low-resilience and high-strength urethane rubber foams)  
IT 524918-67-0P  
(rubber, cellular; polycarbonate diols containing hexamethylene  
units and producing low-resilience and high-strength urethane  
rubber foams)

L54 ANSWER 9 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2003:132418 HCAPLUS  
DOCUMENT NUMBER: 138:171040  
TITLE: Manufacture of biodegradable unsaturated  
bond-containing aliphatic carbonates  
INVENTOR(S): Sugioka, Takuo; Yamaguchi, Yoshimi  
PATENT ASSIGNEE(S): Nippon Shokubai Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003048978	A2	20030221	JP 2001-236970	2001 0803

PRIORITY APPLN. INFO.: JP 2001-236970  
2001  
0803

AB The unsatd. bond-containing aliphatic carbonates are prepared by transesterification and condensation of (a) aliphatic polyhydric alcs. with  $\geq 3$  OH and/or alicyclic polyhydric alcs. with  $\geq 3$  OH with (b) alkyl carbonates, followed with esterification by using unsatd. monobasic acids. Thus, trimethylolpropane 134.2, di-Me carbonate 279.2, and ethylene glycol 186.2 g were heated up to 150° and stirred in N while removing 190 g byproduct MeOH, cooled to room temperature, mixed with p-toluenesulfonic acid, 223.38 g acrylic acid, and 4-hydroxy-2,2,6,6-tetramethylpiperidin-1-oxyl, heated up to 130° and stirred while removing byproduct H<sub>2</sub>O, washed, dried, and evaporated to yield 480 g of a colorless transparent viscous liquid  
IT 497261-71-9P, Dimethyl carbonate-ethylene glycol-trimethylolpropane copolymer acrylate 497261-75-3P



, Diethylene glycol-dimethyl carbonate-pentaerythritol copolymer  
acrylate

(manufacture of biodegradable unsatd. bond-containing aliphatic carbonates)

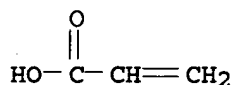
RN 497261-71-9 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,2-ethanediol and  
2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 2-propenoate (9CI) (CA  
INDEX NAME)

CM 1

CRN 79-10-7

CMF C3 H4 O2



CM 2

CRN 497261-70-8

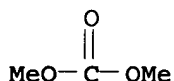
CMF (C6 H14 O3 . C3 H6 O3 . C2 H6 O2)x

CCI PMS

CM 3

CRN 616-38-6

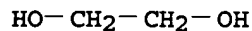
CMF C3 H6 O3



CM 4

CRN 107-21-1

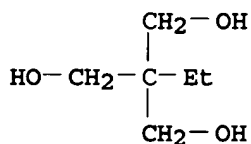
CMF C2 H6 O2



CM 5

CRN 77-99-6

CMF C6 H14 O3

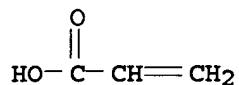


RN 497261-75-3 HCAPLUS  
 CN Carbonic acid, dimethyl ester, polymer with 2,2-bis(hydroxymethyl)-  
 1,3-propanediol and 2,2'-oxybis[ethanol], 2-propenoate (9CI) (CA  
 INDEX NAME)

CM 1

CRN 79-10-7

CMF C3 H4 O2



CM 2

CRN 497261-74-2

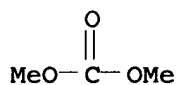
CMF (C5 H12 O4 . C4 H10 O3 . C3 H6 O3)x

CCI PMS

CM 3

CRN 616-38-6

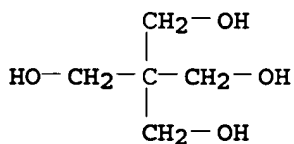
CMF C3 H6 O3



CM 4

CRN 115-77-5

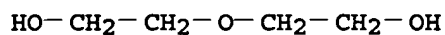
CMF C5 H12 O4



CM 5

CRN 111-46-6

CMF C4 H10 O3



IC ICM C08G064-42

CC 37-3 (Plastics Manufacture and Processing)  
 IT 497261-71-9P, Dimethyl carbonate-ethylene glycol-trimethylolpropane copolymer acrylate 497261-73-1P, Diethyl carbonate-glycerin-tetraethylene glycol copolymer methacrylate 497261-75-3P, Diethylene glycol-dimethyl carbonate-pentaerythritol copolymer acrylate (manufacture of biodegradable unsatd. bond-containing aliphatic carbonates)

L54 ANSWER 10 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:68645 HCAPLUS

DOCUMENT NUMBER: 138:123743

TITLE: Polycarbonate-polyurethane elastomer foams with good strength and abrasion resistance, and their manufacture

INVENTOR(S): Okubo, Makoto; Sawai, Minoru; Fukumoto, Kazuo

PATENT ASSIGNEE(S): Kao Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003026754	A2	20030129	JP 2001-217239	2001 0717

PRIORITY APPLN. INFO.:

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 JP 2001-217239

2001 0717

AB The elastomer foams with d. 0.2-1.0 g/cm<sup>3</sup> are claimed. Thus, a composition comprising di-Me carbonate-dipropylene glycol-MDI prepolymer, polypropylene triol (Excenol 845), diethylene glycol-dimethyl carbonate-ethoxylated polypropylene glycol (Preminol 5005) copolymer, ethylene glycol, diethylene glycol, and additives was blown and injection-molded to give a test piece showing d. 0.300 g/cm<sup>3</sup>, hardness 29, 300% modules 1.11 MPa, and tearing strength 7.53 kN/m.

IT 489427-64-7P, Diethylene glycol-dimethyl carbonate-dipropylene glycol-ethylene glycol-Excenol 845-MDI-Preminol 5005 copolymer 489427-65-8P, Diethylene glycol-dimethyl carbonate-ethylene glycol-Excenol 420-Excenol 845-MDI-Preminol 5005 copolymer (rubber; polycarbonate-polyurethane elastomer foams with good strength and abrasion resistance)

RN 489427-64-7 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,2-ethanediol, Excenol 845, 1,1'-methylenebis[4-isocyanatobenzene], 2,2'-oxybis[ethanol], oxybis[propanol] and Preminol 5005 (9CI) (CA INDEX NAME)

CM 1

CRN 279676-14-1

CMF Unspecified

CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 132469-61-5

CMF Unspecified

CCI MAN

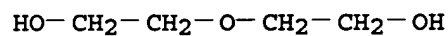
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CRN 25265-71-8

CMF C6 H14 O3

CCI IDS

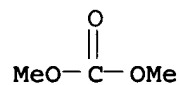


2 ( D1-Me )

CM 4

CRN 616-38-6

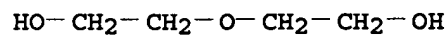
CMF C3 H6 O3



CM 5

CRN 111-46-6

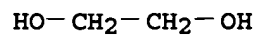
CMF C4 H10 O3



CM 6

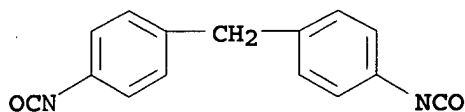
CRN 107-21-1

CMF C2 H6 O2



CM 7

CRN 101-68-8  
CMF C15 H10 N2 O2



RN 489427-65-8 HCAPLUS  
CN Carbonic acid, dimethyl ester, polymer with 1,2-ethanediol, Excenol 420, excenol 845, 1,1'-methylenebis[4-isocyanatobenzene], 2,2'-oxybis[ethanol] and Preminol 5005 (9CI) (CA INDEX NAME)

CM 1

CRN 279676-14-1  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 132469-61-5  
CMF Unspecified  
CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

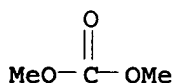
CM 3

CRN 124448-73-3  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

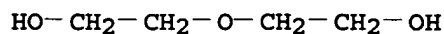
CM 4

CRN 616-38-6  
CMF C3 H6 O3

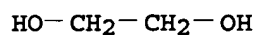


CM 5

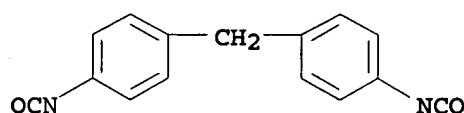
CRN 111-46-6  
CMF C4 H10 O3



CM 6

CRN 107-21-1  
CMF C2 H6 O2

CM 7

CRN 101-68-8  
CMF C15 H10 N2 O2

IC ICM C08G018-44  
ICS C08G018-44; C08G101-00  
CC 39-4 (Synthetic Elastomers and Natural Rubber)  
IT 489427-64-7P, Diethylene glycol-dimethyl  
carbonate-dipropylene glycol-ethylene glycol-Excenol  
845-MDI-Premiol 5005 copolymer 489427-65-8P, Diethylene  
glycol-dimethyl carbonate-ethylene glycol-Excenol 420-Excenol  
845-MDI-Premiol 5005 copolymer  
(rubber; polycarbonate-polyurethane elastomer foams with good  
strength and abrasion resistance)

L54 ANSWER 11 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2003:22934 HCAPLUS  
DOCUMENT NUMBER: 138:73713  
TITLE: Production of aliphatic oligocarbonate diols  
INVENTOR(S): Tillack, Joerg; Laue, Joerg; Witossek,  
Herbert; Schlemenat, Andreas  
PATENT ASSIGNEE(S): Bayer Aktiengesellschaft, Germany  
SOURCE: PCT Int. Appl., 26 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: German  
FAMILY ACC. NUM. COUNT: 2  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003002630	A2	20030109	WO 2002-EP7106	2002 0627

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WO 2003002630 A3 20030320  
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA,  
CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG,  
KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,

MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE,  
 SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,  
 VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT,  
 BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC,  
 NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,  
 ML, MR, NE, SN, TD, TG

DE 10130882	A1	20030116	DE 2001-10130882	2001 0627
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CA 2451467	AA	20030109	CA 2002-2451467	2002 0627
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EP 1404740	A2	20040407	EP 2002-760199	2002 0627
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EP 1404740	B1	20041201		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
CN 1522270	A	20040818	CN 2002-813233	2002 0627
<--				
JP 2004533474	T2	20041104	JP 2003-509008	2002 0627
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AT 283883	E	20041215	AT 2002-760199	2002 0627
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ES 2233851	T3	20050616	ES 2002-2760199	2002 0627
<--				
PRIORITY APPLN. INFO.:			DE 2001-10130882 A	2001 0627
<--				
			WO 2002-EP7106 W	2002 0627

AB In the title process, which is simple and productive and can be carried out on a large scale, diols are treated with (MeO)<sub>2</sub>CO (I) under pressure, optionally in the presence of catalysts, and to complete the reaction, unreacted MeOH and I are removed under reduced pressure. Heating a mixture of 1,6-hexanediol 2316, ε-caprolactone 2237, and Ti(OPr-iso)<sub>4</sub> 0.54 kg under N (5.2 bar) over 3 h to 205°, adding 800 kg I over 4 h while distilling volatiles containing .apprx.11% I, cooling to 195°, adding 1200 kg I over 12 h, heating for 4 h, heating to 200° and lowering the pressure over 7 h to 100 mbar, adding N, removing residual MeOH, and adding 80 kg hexanediol and, after 9 h, another 50 g, gave an oligocarbonate with OH number 57.9 and viscosity 14.531 Pa-s.

IT 101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer

282534-15-0P,  $\epsilon$ -Caprolactone-dimethyl  
carbonate-1,6-hexanediol copolymer  
(oligomeric; production of aliphatic oligocarbonate diols)

RN 101325-00-2 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI)  
(CA INDEX NAME)

CM 1

CRN 629-11-8

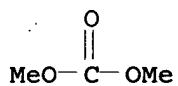
CMF C6 H14 O2

HO-(CH<sub>2</sub>)<sub>6</sub>-OH

CM 2

CRN 616-38-6

CMF C3 H6 O3



RN 282534-15-0 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and  
2-oxepanone (9CI) (CA INDEX NAME)

CM 1

CRN 629-11-8

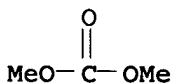
CMF C6 H14 O2

HO-(CH<sub>2</sub>)<sub>6</sub>-OH

CM 2

CRN 616-38-6

CMF C3 H6 O3

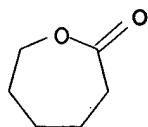


CM 3

CRN 502-44-3

CMF C6 H10 O2





IC ICM C08G064-30  
 CC 35-5 (Chemistry of Synthetic High Polymers)  
 IT 24937-06-2P, Dimethyl carbonate-1,6-hexanediol copolymer, sru  
 101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer  
 282534-15-0P,  $\epsilon$ -Caprolactone-dimethyl  
 carbonate-1,6-hexanediol copolymer  
 (oligomeric; production of aliphatic oligocarbonate diols)

L54 ANSWER 12 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:847998 HCAPLUS

DOCUMENT NUMBER: 137:354049

TITLE: Pressure-sensitive adhesive compositions with  
 reduced gas generation in high temperature  
 environment and their sheets

INVENTOR(S): Amano, Tatsumi; Ando, Masahiko

PATENT ASSIGNEE(S): Nitto Denko Corp., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE:

Patent

LANGUAGE:

Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2002322452	A2	20021108	JP 2001-124738	2001 0423

PRIORITY APPLN. INFO.:

<--  
 JP 2001-124738

2001  
0423

AB The adhesive sheet, useful for elec. devices bonding, has on  
 $\geq 1$  face of a support adhesive layer(s) of the compns. which  
 show weight loss (WL)  $\leq 1\%$  after 240 h at  $120^\circ$  contain  
 as the principal components polyesters with  $M_n \geq 1.0 \times 10^4$ , prepared from (A) aliphatic diols ROCO<sub>2</sub> (R<sub>1</sub> = linear or branched  
 hydrocarbylene with number of C in linear chains 9-20) and (B)  
 polyhydric alcs. with  $\geq 3$  OH and/or polyvalent carboxylic  
 acids with valency  $\geq 3$ . The adhesive sheet has good  
 conformity to rough faces initially after bonding. Thus,  
 2-Me-1,8-octanediol-1,9-nonanediol-dimethyl carbonate copolymer  
 diol (reaction ratio 136:24:90, OH value 55.1 KOH-mg/g,  $M_n$  2000)  
 200, sebacic acid 442.5, and trimethylolpropane 10 g were  
 copolymd. in PhMe in the presence of dibutyltin oxide to give a  
 polyester with  $M_n$  17,000 and polydispersity 3.0, then thinned with  
 PhMe to concentration 30%. A pressure-sensitive adhesive composition  
 containing

100 parts (solid) of the polyester and 2.5 parts  
 trimethylolpropane-HDI trimer adducts (Coronate HL), applied on a  
 poly(ethylene terephthalate) film, and dried at  $130^\circ$  to

give test pieces having high adhesion strength to a rough-surfaced Al plate and WL 1.3%.

IT 474536-00-0P 474536-03-3P

(polycarbonate-polyester-based pressure-sensitive adhesive compns. and their tapes for electronic devices bonding)

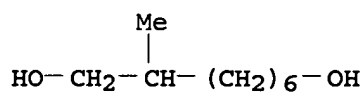
RN 474536-00-0 HCAPLUS

CN Decanedioic acid, polymer with dimethyl carbonate, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 2-methyl-1,8-octanediol and 1,9-nonanediol (9CI) (CA INDEX NAME)

CM 1

CRN 109359-36-6

CMF C9 H20 O2



CM 2

CRN 3937-56-2

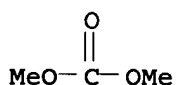
CMF C9 H20 O2



CM 3

CRN 616-38-6

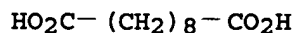
CMF C3 H6 O3



CM 4

CRN 111-20-6

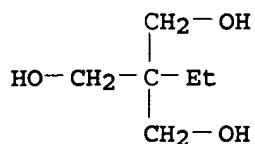
CMF C10 H18 O4



CM 5

CRN 77-99-6

CMF C6 H14 O3



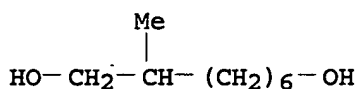
RN 474536-03-3 HCAPLUS

CN 1,2,3,4-Butanetetracarboxylic acid, (2R,3S)-rel-, polymer with decanedioic acid, dimethyl carbonate, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 2-methyl-1,8-octanediol and 1,9-nonanediol (9CI) (CA INDEX NAME)

CM 1

CRN 109359-36-6

CMF C9 H20 O2

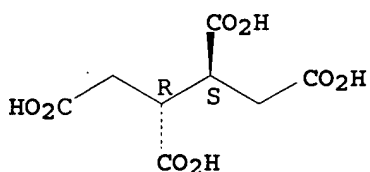


CM 2

CRN 4534-68-3

CMF C8 H10 O8

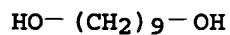
Relative stereochemistry.



CM 3

CRN 3937-56-2

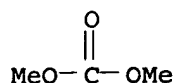
CMF C9 H20 O2



CM 4

CRN 616-38-6

CMF C3 H6 O3



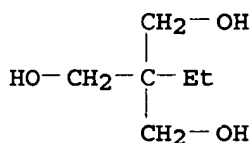
CM 5

CRN 111-20-6  
CMF C10 H18 O4



CM 6

CRN 77-99-6  
CMF C6 H14 O3



IT 474536-01-1P 474536-02-2P 474536-04-4P  
474536-05-5P

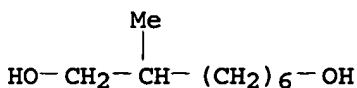
(polycarbonate-polyester-based pressure-sensitive adhesive  
comps. and their tapes for electronic devices bonding)

RN 474536-01-1 HCAPLUS

CN Decanedioic acid, polymer with dimethyl carbonate,  
2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 2-ethyl-2-[[[(6-  
isocyanatohexyl)amino]carbonyl]oxy]methyl]-1,3-propanediyl  
bis[(6-isocyanatohexyl)carbamate], 2-methyl-1,8-octanediol and  
1,9-nonanediol (9CI) (CA INDEX NAME)

CM 1

CRN 109359-36-6  
CMF C9 H20 O2



CM 2

CRN 50886-64-1  
CMF C30 H50 N6 O9



CMF C9 H20 O2



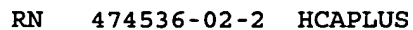
CMF C3 H6 O3



CMF C10 H18 O4

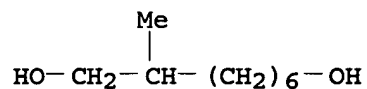


CMF C6 H14 O3



CN Decanedioic acid, polymer with Coronate HL, dimethyl carbonate, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 2-methyl-1,8-octanediol and 1,9-nonanediol (9CI) (CA INDEX NAME)

CM 1

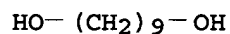
CRN 109359-36-6  
CMF C9 H20 O2

CM 2

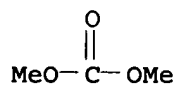
CRN 37293-38-2  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

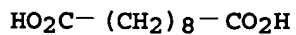
CM 3

CRN 3937-56-2  
CMF C9 H20 O2

CM 4

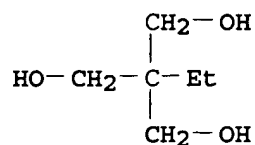
CRN 616-38-6  
CMF C3 H6 O3

CM 5

CRN 111-20-6  
CMF C10 H18 O4

CM 6

CRN 77-99-6  
CMF C6 H14 O3



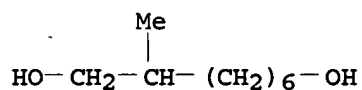
RN 474536-04-4 HCAPLUS

CN 1,2,3,4-Butanetetracarboxylic acid, (2R,3S)-rel-, polymer with  
Coronate HL, decanedioic acid, dimethyl carbonate,  
2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 2-methyl-1,8-octanediol  
and 1,9-nonanediol (9CI) (CA INDEX NAME)

CM 1

CRN 109359-36-6

CMF C9 H20 O2



CM 2

CRN 37293-38-2

CMF Unspecified

CCI PMS, MAN

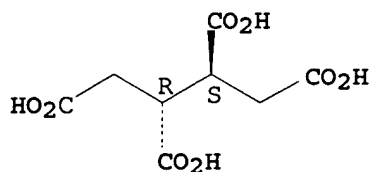
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 3

CRN 4534-68-3

CMF C8 H10 O8

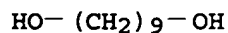
Relative stereochemistry.



CM 4

CRN 3937-56-2

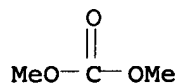
CMF C9 H20 O2



CM 5

CRN 616-38-6

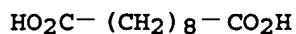
CMF C3 H6 O3



CM 6

CRN 111-20-6

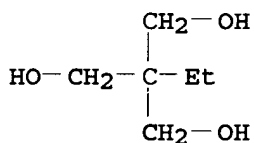
CMF C10 H18 O4



CM 7

CRN 77-99-6

CMF C6 H14 O3



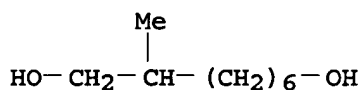
RN 474536-05-5 HCAPLUS

CN 1,2,3,4-Butanetetracarboxylic acid, (2R,3S)-rel-, polymer with decanedioic acid, dimethyl carbonate, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 2-ethyl-2-[[[(6-isocyanatohexyl)amino]carbonyl]oxy]methyl]-1,3-propanediyl bis[(6-isocyanatohexyl)carbamate], 2-methyl-1,8-octanediol and 1,9-nonanediol (9CI) (CA INDEX NAME)

CM 1

CRN 109359-36-6

CMF C9 H20 O2

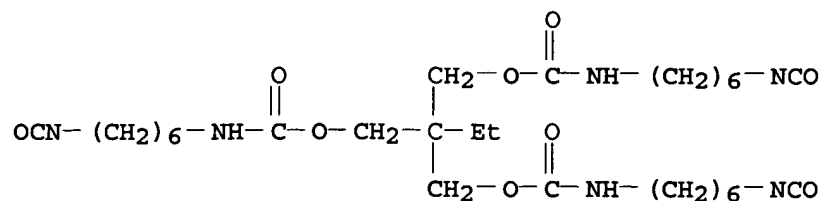


CM 2

CRN 50886-64-1

CMF C30 H50 N6 O9



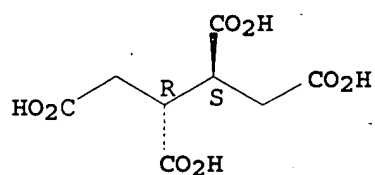


CM 3

CRN 4534-68-3

CMF C8 H10 O8

Relative stereochemistry.



CM 4

CRN 3937-56-2

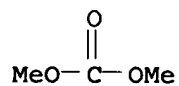
CMF C9 H20 O2

$$\text{HO}-(\text{CH}_2)_9-\text{OH}$$

CM 5

CRN 616-38-6

CMF C3 H6 O3



CM 6

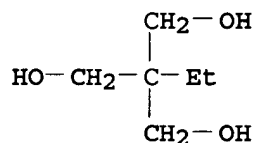
CRN 111-20-6

CMF C10 H18 O4

$$\text{HO}_2\text{C}-(\text{CH}_2)_8-\text{CO}_2\text{H}$$

CM 7

CRN 77-99-6  
CMF C6 H14 O3



IC ICM C09J167-00  
ICS C08G063-64; C09J007-02  
CC 38-3 (Plastics Fabrication and Uses)  
IT 474536-00-0P 474536-03-3P  
(polycarbonate-polyester-based pressure-sensitive adhesive  
comps. and their tapes for electronic devices bonding)  
IT 3937-56-2DP, 1,9-Nonanediol, polymer with di-Me carbonate, dimer  
diol, trimethylolpropane, and sebacic acid 474536-01-1P  
474536-02-2P 474536-04-4P 474536-05-5P  
(polycarbonate-polyester-based pressure-sensitive adhesive  
comps. and their tapes for electronic devices bonding)

L54 ANSWER 13 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2002:610428 HCAPLUS  
DOCUMENT NUMBER: 137:141265  
TITLE: Preparations of copolycarbonates with improved  
processability, stability and resistance to  
water absorption via solid state  
polymerization  
INVENTOR(S): Hait, Sukhendu Bikash  
PATENT ASSIGNEE(S): General Electric Company, USA  
SOURCE: U.S., 8 pp.  
CODEN: USXXAM  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6433126	B1	20020813	US 2001-681755	2001 0531

PRIORITY APPLN. INFO.:

US 2001-681755

2001  
0531

AB Polycarbonate copolymers, also having low birefringence and  
suitable for optical application, were prepared from steps of: (1)  
preparing a mixture comprising partially crystalline bisphenol A  
polycarbonate oligomer and a source of addnl. structural units,  
(2) subjecting the mixture to solid state polymerization Thus, mixing  
22.86 g amorphous R-2 oligomer (a mixture of bisphenol A and  
o,p'-bisphenol A polycarbonate oligomer), 3.10 g  
1,1-bis(4-hydroxyphenyl)-3,3,5-trimethylcyclohexane, and 2.14 g  
diphenylcarbonate in 50 mL a 70:30 mixture of di-Me carbonate and  
methanol for a h, removing the solvent and drying the

residue overnight, then melt-polymerizing the mixture gave a title copolycarbonate.

IT 444930-02-3P 444930-03-4P 444930-04-5P

444930-06-7P 444930-07-8P

(prepns. of copolycarbonates via solid state polymerization)

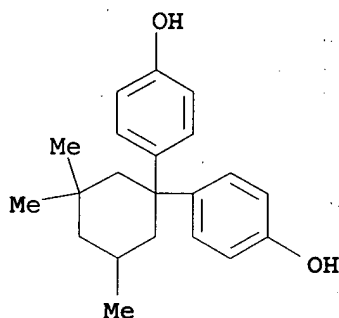
RN 444930-02-3 HCAPLUS

CN Carbonic acid, polymer with dimethyl carbonate, diphenyl carbonate, 2-[1-(4-hydroxyphenyl)-1-methylethyl]phenol, 4,4'-(1-methylethylidene)bis[phenol] and 4,4'-(3,3,5-trimethylcyclohexylidene)bis[phenol] (9CI) (CA INDEX NAME)

CM 1

CRN 129188-99-4

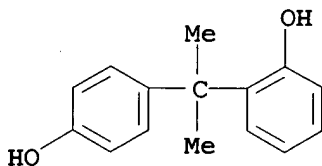
CMF C21 H26 O2



CM 2

CRN 837-08-1

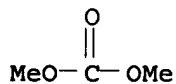
CMF C15 H16 O2



CM 3

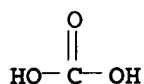
CRN 616-38-6

CMF C3 H6 O3



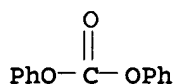
CM 4

CRN 463-79-6  
CMF C H2 O3



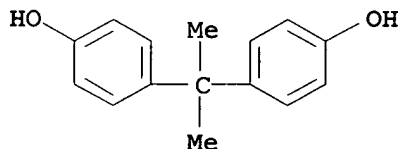
CM 5

CRN 102-09-0  
CMF C13 H10 O3



CM 6

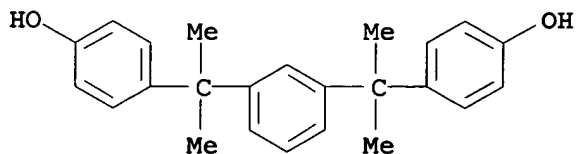
CRN 80-05-7  
CMF C15 H16 O2



RN 444930-03-4 HCAPLUS  
CN Carbonic acid, polymer with dimethyl carbonate, diphenyl carbonate, 2-[1-(4-hydroxyphenyl)-1-methylethyl]phenol, 4,4'-(1-methylethylidene)bis[phenol] and 4,4'-[1,3-phenylenebis(1-methylethylidene)]bis[phenol] (9CI) (CA INDEX NAME)

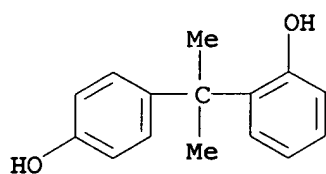
CM 1

CRN 13595-25-0  
CMF C24 H26 O2



CM 2

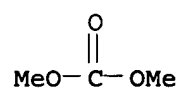
CRN 837-08-1  
CMF C15 H16 O2



CM 3

CRN 616-38-6

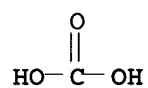
CMF C3 H6 O3



CM 4

CRN 463-79-6

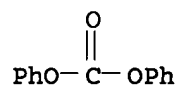
CMF C H2 O3



CM 5

CRN 102-09-0

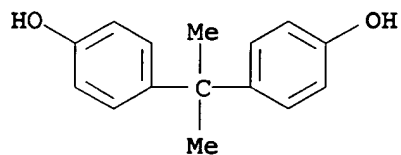
CMF C13 H10 O3



CM 6

CRN 80-05-7

CMF C15 H16 O2

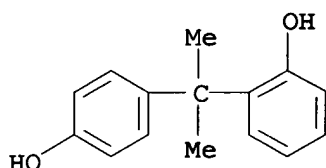


RN 444930-04-5 HCAPLUS

CN Carbonic acid, polymer with dimethyl carbonate,  
2-[1-(4-hydroxyphenyl)-1-methylethyl]phenol and  
4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

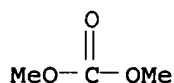
CM 1

CRN 837-08-1  
CMF C15 H16 O2



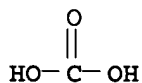
CM 2

CRN 616-38-6  
CMF C3 H6 O3



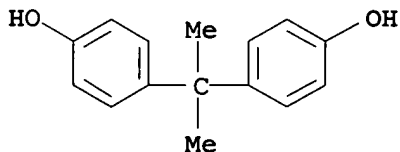
CM 3

CRN 463-79-6  
CMF C H2 O3



CM 4

CRN 80-05-7  
CMF C15 H16 O2



RN 444930-06-7 HCAPLUS

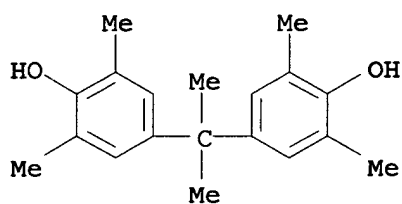
CN Ethanaminium, N-[bis(diethylamino)methylene]-N-ethyl-, salt with  
4,4'-(1-methylethylidene)bis[phenol] (1:2), polymer with carbonic  
acid, dimethyl carbonate, 2-[1-(4-hydroxyphenyl)-1-

methylethyl]phenol, 4,4'-(1-methylethylidene)bis[2,6-dimethylphenol] and 4,4'-(1-methylethylidene)bis[phenol] (9CI)  
(CA INDEX NAME)

CM 1

CRN 5613-46-7

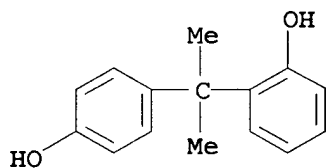
CMF C19 H24 O2



CM 2

CRN 837-08-1

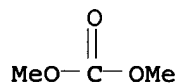
CMF C15 H16 O2



CM 3

CRN 616-38-6

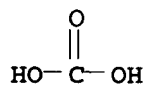
CMF C3 H6 O3



CM 4

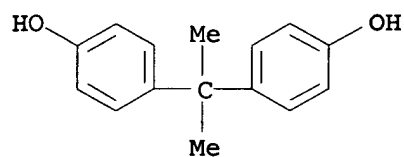
CRN 463-79-6

CMF C H2 O3



CM 5

CRN 80-05-7  
CMF C15 H16 O2

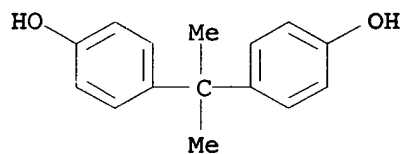


CM 6

CRN 178926-41-5  
CMF C15 H16 O2 . C15 H15 O2 . C13 H30 N3

CM 7

CRN 80-05-7  
CMF C15 H16 O2

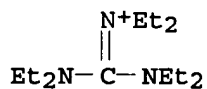


CM 8

CRN 178926-40-4  
CMF C15 H15 O2 . C13 H30 N3

CM 9

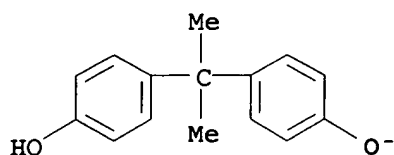
CRN 74119-50-9  
CMF C13 H30 N3



CM 10

CRN 46776-02-7  
CMF C15 H15 O2





RN 444930-07-8 HCAPLUS

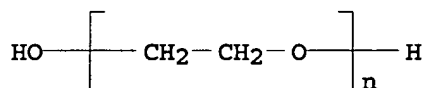
CN Ethanaminium, N-[bis(diethylamino)methylene]-N-ethyl-, salt with 4,4'-(1-methylethylidene)bis[phenol] (1:2), polymer with carbonic acid, dimethyl carbonate,  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl), 2-[1-(4-hydroxyphenyl)-1-methylethyl]phenol, 4,4'-(1-methylethylidene)bis[2,6-dimethylphenol] and 4,4'-(1-methylethylidene)bis[phenol] (9CI) (CA INDEX NAME)

CM 1

CRN 25322-68-3

CMF (C2 H4 O)<sub>n</sub> H2 O

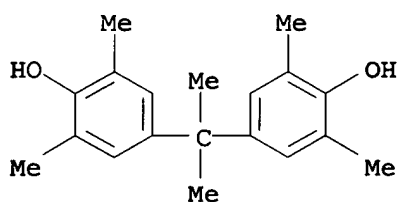
CCI PMS



CM 2

CRN 5613-46-7

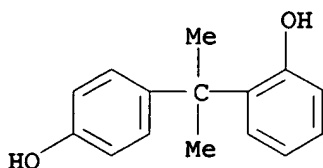
CMF C19 H24 O2



CM 3

CRN 837-08-1

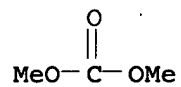
CMF C15 H16 O2



CM 4

CRN 616-38-6

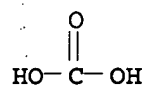
CMF C3 H6 O3



CM 5

CRN 463-79-6

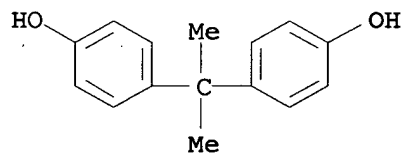
CMF C H2 O3



CM 6

CRN 80-05-7

CMF C15 H16 O2



CM 7

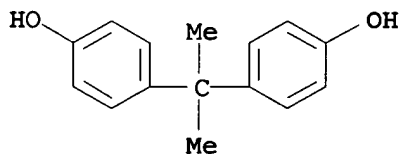
CRN 178926-41-5

CMF C15 H16 O2 . C15 H15 O2 . C13 H30 N3

CM 8

CRN 80-05-7

CMF C15 H16 O2



CM 9

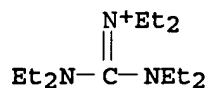
CRN 178926-40-4

CMF C15 H15 O2 . C13 H30 N3

CM 10

CRN 74119-50-9

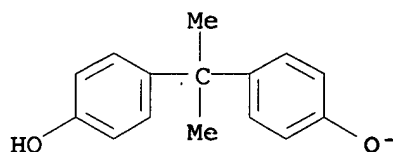
CMF C13 H30 N3



CM 11

CRN 46776-02-7

CMF C15 H15 O2



IC ICM C08G064-00

INCL 528196000

CC 37-3 (Plastics Manufacture and Processing)

IT 444930-02-3P 444930-03-4P 444930-04-5P

444930-06-7P 444930-07-8P 444930-08-9P

444930-09-0P

(preps. of copolycarbonates via solid state polymerization)

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L54 ANSWER 14 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:503404 HCAPLUS

DOCUMENT NUMBER: 137:63928

TITLE: Thermoplastic polyurethanes prepared from  
polyethercarbonate diols, diisocyanates and  
chain extenders

INVENTOR(S): Tanaka, Hideho; Kunitura, Masaru; Kashiwagi,  
Kohichi; Kaneko, Takayoshi

PATENT ASSIGNEE(S): Ube Industries, Ltd., Japan

SOURCE: Eur. Pat. Appl., 21 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1219655	A1	20020703	EP 2001-130394	2001 1220

EP 1219655 B1 20040303 <--  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,  
 MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR  
 JP 2002234929 A2 20020823 JP 2001-32349

2001  
0208

ES 2217084 T3 20041101 ES 2001-1130394 <--

2001  
1220

US 2002123595 A1 20020905 US 2001-35768 <--

2001  
1226

US 6881856 B2 20050419 <--  
 JP 2002256069 A2 20020911 JP 2001-393399

2001  
1226

JP 3700648 B2 20050928 <--  
 US 2005143551 A1 20050630 US 2005-70969

2005  
0303

PRIORITY APPLN. INFO.:

<--  
 JP 2000-394482 A

2000  
1226

<--  
 JP 2001-32349 A

2001  
0208

<--  
 US 2001-35768 A3

2001  
1226

AB The thermoplastic polyurethane, useful for elastomers, elastic fibers and artificial leathers comprises a reaction product of a diisocyanate (e.g., MDI), a chain extender (e.g., 1,4-butanediol) and a liquid polyethercarbonate diol obtained by reaction of a carbonate (e.g., di-Me carbonate) with a polyether diol (e.f., ethylene oxide) and having structural units (a)  $-(CH_2)_6O-$ , (b)  $-(CH_2)_2O-$  and (c)  $-CH_2CH(CH_3)O-$ , wherein the units b has an average number (n) of moles 0-5 per mol of the units a, the units c has an average number (m) of moles 0-5 per mol of the units a, and the total average number (n + m) of moles of b and c is 1-5 per mol of a.

IT 439247-90-2P 439277-80-2P

(thermoplastic polyurethanes prepared from polyethercarbonate diols, diisocyanates and chain extenders)

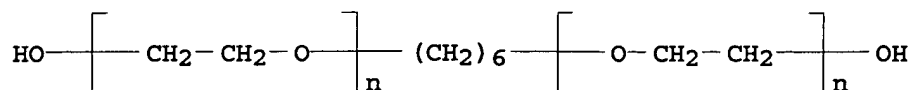
RN 439247-90-2 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol,  $\alpha, \alpha'$ -1,6-hexanediylbis[ $\omega$ -hydroxypoly(oxy-1,2-ethanediyl)] and 1,1'-methylenebis[4-isocyanatobenzene], block (9CI) (CA INDEX NAME)

CM 1

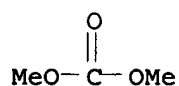
CRN 52365-03-4

CMF (C2 H4 O)<sub>n</sub> (C2 H4 O)<sub>n</sub> C6 H14 O2  
CCI PMS



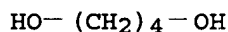
CM 2

CRN 616-38-6  
CMF C3 H6 O3



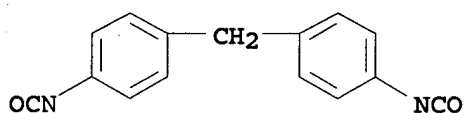
CM 3

CRN 110-63-4  
CMF C4 H10 O2



CM 4

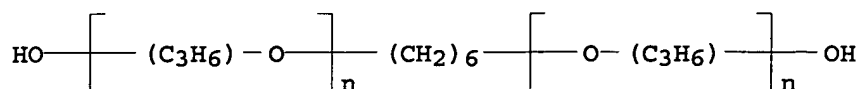
CRN 101-68-8  
CMF C15 H10 N2 O2



RN 439277-80-2 HCAPLUS  
CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol, α,α'-1,6-hexanediylbis[ω-hydroxypoly[oxy(methyl-1,2-ethanediyl)]] and 1,1'-methylenebis[4-isocyanatobenzene], block (9CI) (CA INDEX NAME)

CM 1

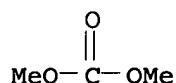
CRN 117968-95-3  
CMF (C3 H6 O)<sub>n</sub> (C3 H6 O)<sub>n</sub> C6 H14 O2  
CCI IDS, PMS



CM 2

CRN 616-38-6

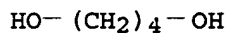
CMF C3 H6 O3



CM 3

CRN 110-63-4

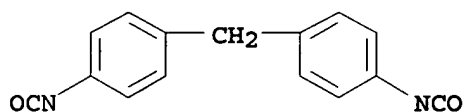
CMF C4 H10 O2



CM 4

CRN 101-68-8

CMF C15 H10 N2 O2



IC ICM C08G018-44

ICS C08G018-66; C08G064-18; C08G018-76; C08G018-10

CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 38, 39, 40

IT 439247-90-2P 439247-91-3P 439247-92-4P

439277-80-2P

(thermoplastic polyurethanes prepared from polyethercarbonate diols, diisocyanates and chain extenders)

REFERENCE COUNT:

4

THERE ARE 4 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L54 ANSWER 15 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:207564 HCAPLUS

DOCUMENT NUMBER: 136:263945

TITLE: Styrenic block polymers and their use as  
antistatic agentsINVENTOR(S): Okamoto, Tokiko; Araki, Fumikazu; Senda,  
Eiichi

PATENT ASSIGNEE(S): Sanyo Chemical Industries Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 48 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002080600	A2	20020319	JP 2001-200186	2001 0629

PRIORITY APPLN. INFO.: <-- JP 2000-195659 A  
 2000  
 0629

AB The block polymers contain a styrene polymer block and a hydrophilic polymer block that are chemical linked alternatively. Preparing a styrene-acrylonitrile copolymer using a carboxyl-terminated initiator (V501) and block polymerization with PEG 4000S (polyethylene glycol) gave a block copolymer with Mn 32,000. A composition contained 10 parts this block copolymer and 90 parts ABS10, giving test pieces with volume resistivity  $5 \times 10^{11}$   $\Omega$ -cm and good compatibility.

IT 404886-56-2DP, exchanged salt with hexafluorophosphoric acid  
 (styrenic block polymers and their use as antistatic agents)

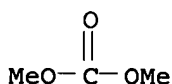
RN 404886-56-2 HCAPLUS

CN Hexanedioic acid, polymer with ethenylbenzene, 2-(methylamino)ethanol and 2-propenenitrile, block, compd. with dimethyl carbonate (9CI) (CA INDEX NAME)

CM 1

CRN 616-38-6

CMF C3 H6 O3



CM 2

CRN 404886-55-1

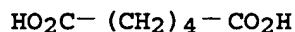
CMF (C8 H8 . C6 H10 O4 . C3 H9 N O . C3 H3 N)x

CCI PMS

CM 3

CRN 124-04-9

CMF C6 H10 O4



CM 4

CRN 109-83-1  
CMF C3 H9 N O



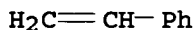
CM 5

CRN 107-13-1  
CMF C3 H3 N



CM 6

CRN 100-42-5  
CMF C8 H8



IC ICM C08G081-02  
ICS C08L087-00; C08L101-00; C09K003-16  
CC 37-6 (Plastics Manufacture and Processing)  
IT 107087-30-9P, Caprolactam-polyethylene glycol block copolymer;  
404886-54-0P, Acrylonitrile-styrene-ethylene oxide-caprolactam  
block copolymer 404886-56-2DP, exchanged salt with  
hexafluorophosphoric acid 404886-57-3P 404886-58-4P  
404886-60-8P 404886-61-9P 404912-41-0P, Acrylonitrile-styrene-  
ethylene oxide block copolymer  
(styrenic block polymers and their use as antistatic agents)

L54 ANSWER 16 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2002:169649 HCAPLUS

DOCUMENT NUMBER: 136:232999

TITLE: Polycarbonate diol copolymer and its  
manufactureINVENTOR(S): Okamoto, Hidemasa; Miwa, Yoshiyuki; Kunimura,  
Masaru; Kashiwagi, Koichi; Moriue, Atsushi

PATENT ASSIGNEE(S): Ube Industries, Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:



PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002069166	A2	20020308	JP 2000-258849	2000 0829

PRIORITY APPLN. INFO.:

<--  
JP 2000-2588492000  
0829

AB Title polycarbonate polymer is characterized by containing 1,6-hexanediol and 1,4-cyclohexanedimethanol as diol components and by being liquid at room temperature The polymer is manufacture by transesterification of polycarbonate (A) having 1,6-hexanediol as diol component and polycarbonate (B) having 1,4-cyclohexanedimethanol as diol component.

IT 403520-46-7P

(liquid polycarbonate diol copolymer for manufacture of polyurethanes)

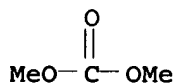
RN 403520-46-7 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,4-cyclohexanedimethanol, 1,6-hexanediol and 1,1'-methylenebis[4-isocyanatobenzene] (9CI) (CA INDEX NAME)

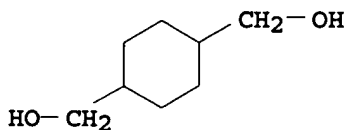
CM 1

CRN 629-11-8  
CMF C6 H14 O2HO-(CH<sub>2</sub>)<sub>6</sub>-OH

CM 2

CRN 616-38-6  
CMF C3 H6 O3

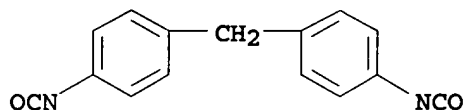
CM 3

CRN 105-08-8  
CMF C8 H16 O2

CM 4

CRN 101-68-8

CMF C15 H10 N2 O2



IT 216691-97-3P

(polycarbonate diol copolymer and its manufacture)

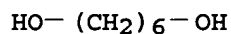
RN 216691-97-3 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,4-cyclohexanedimethanol and 1,6-hexanediol (9CI) (CA INDEX NAME)

CM 1

CRN 629-11-8

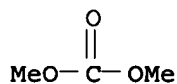
CMF C6 H14 O2



CM 2

CRN 616-38-6

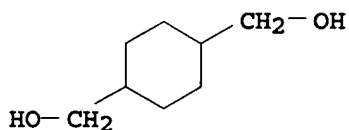
CMF C3 H6 O3



CM 3

CRN 105-08-8

CMF C8 H16 O2



IC ICM C08G064-00

ICS C08G064-20

CC 37-3 (Plastics Manufacture and Processing)

IT 403520-45-6P 403520-46-7P

(liquid polycarbonate diol copolymer for manufacture of polyurethanes)

IT 109359-28-6P 216691-97-3P

(polycarbonate diol copolymer and its manufacture)

L54 ANSWER 17 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2002:84102 HCAPLUS  
 DOCUMENT NUMBER: 136:135184  
 TITLE: Manufacture of polycarbonate diols containing urethane forming catalysts  
 INVENTOR(S): Kashiwagi, Koichi; Morikami, Atsushi  
 PATENT ASSIGNEE(S): Ube Industries, Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2002030143	A2	20020131	JP 2000-215547	2000 0717

PRIORITY APPLN. INFO.:

<--  
 JP 2000-215547  
 2000  
 0717

AB The polycarbonate diols are manufactured by heating left-over transesterification catalyst (A)-containing polycarbonate diols after their fresh formation with a triester of phosphorous acid which was used to stabilize the catalyst activity of the A in a urethane reaction later on. Thus, heating di-Me carbonate 427 with 1,6-hexanediol 560 and Ti(OBu)<sub>4</sub> 0.054 g at 100-200° with stirring while removing MeOH-dimethyl carbonate mixture for 5 h, further removing MeOH-dimethyl carbonate mixture at 100 mm-Hg, and reacting while stripping 1,6-hexanediol at 160-200° and 1-5 mm-Hg for 8 h gave a polycarbonate diol still containing Ti(OBu)<sub>4</sub>, 100 g of which (Ti content 14 ppm, moisture content 700 ppm) was combined with 8.78 mg tri-Bu phosphite, and heated at 130° under N for 2 h with stirring to give a urethane reaction catalyst-containing polycarbonate diol with good reactivity with MDI in a urethane formation reaction.

IT 123256-09-7P, Dimethyl carbonate-1,6-hexanediol-MDI copolymer 391902-19-5P, 4,4'-Dicyclohexylmethane diisocyanate;dimethyl carbonate;1,6-hexanediol copolymer (manufacture of polycarbonate diols containing urethane forming catalysts and polyurethanes using them)

RN 123256-09-7 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and 1,1'-methylenebis[4-isocyanatobenzene] (9CI) (CA INDEX NAME)

CM 1

CRN 629-11-8

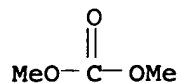
CMF C6 H14 O2

HO-(CH<sub>2</sub>)<sub>6</sub>-OH

CM 2

CRN 616-38-6

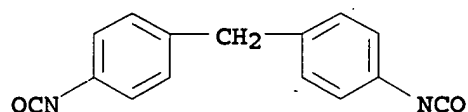
CMF C3 H6 O3



CM 3

CRN 101-68-8

CMF C15 H10 N2 O2



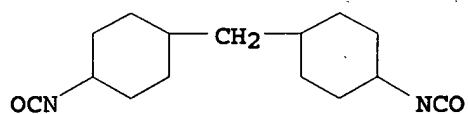
RN 391902-19-5 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and 1,1'-methylenebis[4-isocyanatocyclohexane] (9CI) (CA INDEX NAME)

CM 1

CRN 5124-30-1

CMF C15 H22 N2 O2



CM 2

CRN 629-11-8

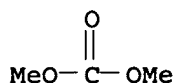
CMF C6 H14 O2



CM 3

CRN 616-38-6

CMF C3 H6 O3



IT 101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer  
 (polymeric monomers; manufacture of polycarbonate diols containing  
 urethane forming catalysts and polyurethanes using them)  
 RN 101325-00-2 HCAPLUS  
 CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI)  
 (CA INDEX NAME)

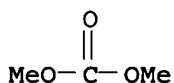
CM 1

CRN 629-11-8  
 CMF C6 H14 O2



CM 2

CRN 616-38-6  
 CMF C3 H6 O3



IC ICM C08G064-42  
 ICS C08G064-30; C08G018-44  
 CC 35-5 (Chemistry of Synthetic High Polymers)  
 IT 123256-09-7P, Dimethyl carbonate-1,6-hexanediol-MDI  
 copolymer 391902-19-5P, 4,4'-Dicyclohexylmethane  
 diisocyanate;dimethyl carbonate;1,6-hexanediol copolymer  
 (manufacture of polycarbonate diols containing urethane forming  
 catalysts and polyurethanes using them)  
 IT 24937-06-2P, Dimethyl carbonate-1,6-hexanediol copolymer sru  
 101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer  
 (polymeric monomers; manufacture of polycarbonate diols containing  
 urethane forming catalysts and polyurethanes using them)

L54 ANSWER 18 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2001:904319 HCAPLUS  
 DOCUMENT NUMBER: 136:38082  
 TITLE: Production of aliphatic oligocarbonate diols  
 from dimethyl carbonate and their use  
 INVENTOR(S): Schlemenat, Andreas; Tillack, Joerg; Laue,  
 Joerg; Witossek, Herbert  
 PATENT ASSIGNEE(S): Bayer Aktiengesellschaft, Germany  
 SOURCE: PCT Int. Appl., 52 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1

## PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001094444	A1	20011213	WO 2001-EP5966	2001 0525
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
DE 10027907	A1	20011213	DE 2000-10027907	2000 0606
CA 2411709	AA	20011213	CA 2001-2411709	2001 0525
EP 1292630	A1	20030319	EP 2001-955289	2001 0525
EP 1292630	B1	20040407		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2003535936	T2	20031202	JP 2002-501991	2001 0525
AT 263797	E	20040415	AT 2001-955289	2001 0525
PT 1292630	T	20040730	PT 2001-955289	2001 0525
ES 2218433	T3	20041116	ES 2001-1955289	2001 0525
TW 575603	B	20040211	TW 2001-90113635	2001 0606
US 6833433	B1	20041221	US 2002-297542	2002 1204

PRIORITY APPLN. INFO.:

DE 2000-10027907 A

2000  
0606<--  
WO 2001-EP5966 W  
2001  
0525

&lt;--

AB The invention relates to a novel method for producing aliphatic oligocarbonate diols from aliphatic diols by means of a multi-stage transesterification with  $\text{Me}_2\text{CO}_3$  while almost completely utilizing the carbonate involved. The inventive method enables a particularly high-yield production of aliphatic oligocarbonate diols starting from easily accessible  $\text{Me}_2\text{CO}_3$ . A copolymer of  $\text{Me}_2\text{CO}_3$ , 1,6-hexanediol, and  $\epsilon$ -caprolactone was produced in an example.

IT 74-82-8, Methane, uses 74-84-0, Ethane, uses 74-98-6, Propane, uses 106-97-8, Butane, uses 115-10-6, Dimethyl ether 1333-74-0, Hydrogen, uses 7440-37-1, Argon, uses 7727-37-9, Nitrogen, uses (blanketing gas; in multistage production of aliphatic oligocarbonate diols from di-Me carbonate)

RN 74-82-8 HCAPLUS  
CN Methane (8CI, 9CI) (CA INDEX NAME)

 $\text{CH}_4$ 

RN 74-84-0 HCAPLUS  
CN Ethane (8CI, 9CI) (CA INDEX NAME)

 $\text{H}_3\text{C}-\text{CH}_3$ 

RN 74-98-6 HCAPLUS  
CN Propane (8CI, 9CI) (CA INDEX NAME)

 $\text{H}_3\text{C}-\text{CH}_2-\text{CH}_3$ 

RN 106-97-8 HCAPLUS  
CN Butane (8CI, 9CI) (CA INDEX NAME)

 $\text{H}_3\text{C}-\text{CH}_2-\text{CH}_2-\text{CH}_3$ 

RN 115-10-6 HCAPLUS  
CN Methane, oxybis- (9CI) (CA INDEX NAME)

 $\text{H}_3\text{C}-\text{O}-\text{CH}_3$ 

RN 1333-74-0 HCAPLUS  
CN Hydrogen (8CI, 9CI) (CA INDEX NAME)

H-H

RN 7440-37-1 HCAPLUS  
CN Argon (8CI, 9CI) (CA INDEX NAME)

Ar

RN 7727-37-9 HCAPLUS  
CN Nitrogen (8CI, 9CI) (CA INDEX NAME)

N  
|||  
N

IT 67-56-1P, Methanol, preparation  
(in multistage production of aliphatic oligocarbonate diols from di-Me carbonate)  
RN 67-56-1 HCAPLUS  
CN Methanol (8CI, 9CI) (CA INDEX NAME)

H<sub>3</sub>C-OH

IT 60-29-7, Diethyl ether, uses 109-66-0, Pentane,  
uses 110-54-3, Hexane, uses 110-82-7,  
Cyclohexane, uses 287-92-3, Cyclopentane  
1634-04-4, MTBE  
(inert fluid; in multistage production of aliphatic oligocarbonate diols from di-Me carbonate)  
RN 60-29-7 HCAPLUS  
CN Ethane, 1,1'-oxybis- (9CI) (CA INDEX NAME)

H<sub>3</sub>C-CH<sub>2</sub>-O-CH<sub>2</sub>-CH<sub>3</sub>

RN 109-66-0 HCAPLUS  
CN Pentane (8CI, 9CI) (CA INDEX NAME)

H<sub>3</sub>C-CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>3</sub>

RN 110-54-3 HCAPLUS  
CN Hexane (8CI, 9CI) (CA INDEX NAME)

Me-(CH<sub>2</sub>)<sub>4</sub>-Me

RN 110-82-7 HCAPLUS  
CN Cyclohexane (8CI, 9CI) (CA INDEX NAME)





RN 287-92-3 HCAPLUS  
 CN Cyclopentane (8CI, 9CI) (CA INDEX NAME)



RN 1634-04-4 HCAPLUS  
 CN Propane, 2-methoxy-2-methyl- (9CI) (CA INDEX NAME)

t-Bu-O-Me

IT 101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer  
 171926-77-5P, Dimethyl carbonate-polytetramethylene glycol  
 copolymer 282534-15-0P,  $\epsilon$ -Caprolactone-dimethyl  
 carbonate-1,6-hexanediol copolymer 380307-08-4P,  
 $\epsilon$ -Caprolactone-dimethyl carbonate-1,5-pentanediol  
 copolymer  
 (multistage production of aliphatic oligocarbonate diols from di-Me  
 carbonate)  
 RN 101325-00-2 HCAPLUS  
 CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI)  
 (CA INDEX NAME)

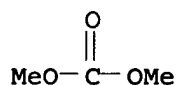
CM 1

CRN 629-11-8  
 CMF C6 H14 O2

HO-(CH<sub>2</sub>)<sub>6</sub>-OH

CM 2

CRN 616-38-6  
 CMF C3 H6 O3



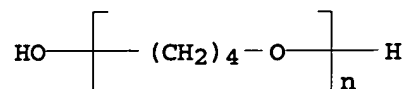
RN 171926-77-5 HCAPLUS  
 CN Carbonic acid, dimethyl ester, polymer with  $\alpha$ -hydro- $\omega$ -  
 hydroxypoly(oxy-1,4-butanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 25190-06-1

CMF (C4 H8 O)<sub>n</sub> H2 O

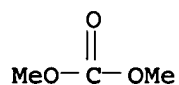
CCI PMS



CM 2

CRN 616-38-6

CMF C3 H6 O3



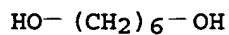
RN 282534-15-0 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and 2-oxepanone (9CI) (CA INDEX NAME)

CM 1

CRN 629-11-8

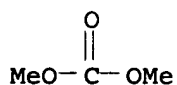
CMF C6 H14 O2



CM 2

CRN 616-38-6

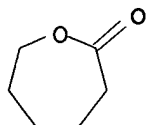
CMF C3 H6 O3



CM 3

CRN 502-44-3

CMF C6 H10 O2

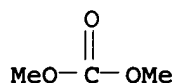


RN 380307-08-4 HCAPLUS  
 CN Carbonic acid, dimethyl ester, polymer with 2-oxepanone and  
 1,5-pentanediol (9CI) (CA INDEX NAME)

CM 1

CRN 616-38-6

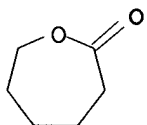
CMF C3 H6 O3



CM 2

CRN 502-44-3

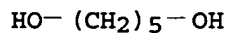
CMF C6 H10 O2



CM 3

CRN 111-29-5

CMF C5 H12 O2



IC ICM C08G064-30

CC 35-5 (Chemistry of Synthetic High Polymers)

IT **Natural gas**, uses  
 (in multistage production of aliphatic oligocarbonate diols from di-Me carbonate)

IT 74-82-8, Methane, uses 74-84-0, Ethane, uses  
 74-98-6, Propane, uses 106-97-8, Butane, uses  
 115-10-6, Dimethyl ether 1333-74-0, Hydrogen,  
 uses 7440-37-1, Argon, uses 7727-37-9,  
 Nitrogen, uses

(blanketing gas; in multistage production of aliphatic oligocarbonate diols from di-Me carbonate)

IT 67-56-1P, Methanol, preparation

(in multistage production of aliphatic oligocarbonate diols from di-Me carbonate)

- IT 60-29-7, Diethyl ether, uses 109-66-0, Pentane,  
uses 110-54-3, Hexane, uses 110-82-7,  
Cyclohexane, uses 287-92-3, Cyclopentane  
1634-04-4, MTBE  
(inert fluid; in multistage production of aliphatic oligocarbonate diols from di-Me carbonate)
- IT 24937-06-2P, Dimethyl carbonate-1,6-hexanediol copolymer, SRU  
101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer  
171926-77-5P, Dimethyl carbonate-polytetramethylene glycol  
copolymer 282534-15-0P,  $\epsilon$ -Caprolactone-dimethyl  
carbonate-1,6-hexanediol copolymer 380307-08-4P,  
 $\epsilon$ -Caprolactone-dimethyl carbonate-1,5-pentanediol  
copolymer  
(multistage production of aliphatic oligocarbonate diols from di-Me carbonate)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L54 ANSWER 19 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2001:842327 HCAPLUS  
DOCUMENT NUMBER: 135:372481  
TITLE: High-rigidity and high-elongation segmented  
polyurethanes  
INVENTOR(S): Tanaka, Hideo; Kunitura, Masaru  
PATENT ASSIGNEE(S): Ube Industries, Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001323042	A2	20011120	JP 2000-144408	2000 0517

PRIORITY APPLN. INFO.: <-- JP 2000-144408

2000  
0517

- AB Polyurethanes are prepared from polycarbonate diols derived from aliphatic hydrocarbon diols containing 1,12-dodecanediol (I) and carbonates, chain extenders, and diisocyanates. Thus, a polyurethane was prepared from di-Me carbonate-I copolymer, 1,4-butanediol, and 4,4'-diphenylmethane diisocyanate.
- IT 374089-27-7P, 1,4-Butanediol-dimethyl carbonate-1,12-dodecanediol-4,4'-diphenylmethane diisocyanate block copolymer (high-rigidity and high-elongation segmented polyurethanes)
- RN 374089-27-7 HCAPLUS
- CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol, 1,12-dodecanediol and 1,1'-methylenebis[4-isocyanatobenzene], block (9CI) (CA INDEX NAME)

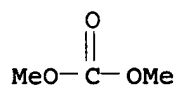
CM 1

CRN 5675-51-4  
CMF C12 H26 O2

HO-(CH<sub>2</sub>)<sub>12</sub>-OH

CM 2

CRN 616-38-6  
CMF C3 H6 O3



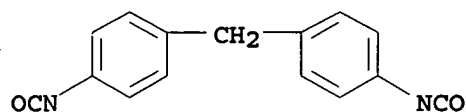
CM 3

CRN 110-63-4  
CMF C4 H10 O2

HO-(CH<sub>2</sub>)<sub>4</sub>-OH

CM 4

CRN 101-68-8  
CMF C15 H10 N2 O2



IT 374089-26-6P, Dimethyl carbonate-1,12-dodecanediol  
copolymer  
(high-rigidity and high-elongation segmented polyurethanes)  
RN 374089-26-6 HCAPLUS  
CN Carbonic acid, dimethyl ester, polymer with 1,12-dodecanediol  
(9CI) (CA INDEX NAME)

CM 1

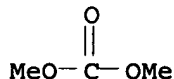
CRN 5675-51-4  
CMF C12 H26 O2

HO-(CH<sub>2</sub>)<sub>12</sub>-OH

CM 2

CRN 616-38-6

CMF C3 H6 O3



IC ICM C08G018-44  
 CC 37-3 (Plastics Manufacture and Processing)  
 IT 374089-27-7P, 1,4-Butanediol-dimethyl carbonate-1,12-dodecanediol-4,4'-diphenylmethane diisocyanate block copolymer (high-rigidity and high-elongation segmented polyurethanes)  
 IT 66837-13-6P, Poly(oxycarbonyloxy-1,12-dodecanediyl)  
 IT 374089-26-6P, Dimethyl carbonate-1,12-dodecanediol copolymer (high-rigidity and high-elongation segmented polyurethanes)

L54 ANSWER 20 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2001:718091 HCAPLUS  
 DOCUMENT NUMBER: 135:257919  
 TITLE: Manufacture of polycarbonate diols having reduced discoloration  
 INVENTOR(S): Kashiwagi, Koichi; Doi, Takashi; Kaneko, Takayoshi; Takiguchi, Suzuo  
 PATENT ASSIGNEE(S): Ube Industries, Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001270938	A2	20011002	JP 2001-11790	2001 0119
JP 3724561	B2	20051207	<--	
ES 2192920	A1	20031016	ES 2001-125	2001 0119
ES 2192920	B2	20040616	<--	
PRIORITY APPLN. INFO.:			JP 2000-12362	A 2000 0121

AB The polycarbonate diols, useful for raw materials for polyurethanes, coatings, adhesives, etc., are manufactured by transesterification of di-Me carbonate with aliphatic dihydroxy compds. at molar ratio of (n + 1)/n 1.31-1.58 (n = 1.72-3.23; Mn of resulting polycarbonate diol prepolymers) in the presence of catalysts while discharging MeOH and di-Me carbonate to give prepolymers (molar content of alkyl end group 5%) and

polycondensation of the prepolymers in the presence of catalysts while discharging aliphatic dihydroxy compds. Thus, NaOMe-treated di-Me carbonate was transesterified with 1,6-hexanediol in the presence of Ti(Obu)<sub>4</sub> and condensed to give OH-terminated polycarbonate showing APHA 15.

IT 101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer  
(manufacture of polycarbonate diols having reduced discoloration)  
RN 101325-00-2 HCAPLUS  
CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI)  
(CA INDEX NAME)

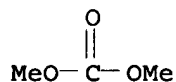
CM 1

CRN 629-11-8  
CMF C6 H14 O2

HO-(CH<sub>2</sub>)<sub>6</sub>-OH

CM 2

CRN 616-38-6  
CMF C3 H6 O3



IC ICM C08G064-30  
CC 37-3 (Plastics Manufacture and Processing)  
IT 24937-06-2P, Dimethyl carbonate-1,6-hexanediol copolymer, sru  
101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer  
(manufacture of polycarbonate diols having reduced discoloration)

L54 ANSWER 21 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:691786 HCAPLUS

DOCUMENT NUMBER: 135:242655

TITLE: Preparation of polycarbonate diols with a high molecular weight by two reaction steps

INVENTOR(S): Mizia, Franco; Rivetti, Franco

PATENT ASSIGNEE(S): Enichem S.P.A., Italy; Polimeri Europa S.P.A.

SOURCE: Eur. Pat. Appl., 10 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 1134248	A1	20010919	EP 2001-103237	2001 0212
			<--	
EP 1134248	B1	20050803		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,  
MC, PT, IE, SI, LT, LV, FI, RO

IT 2000MI0549 A1 20010917 IT 2000-MI549  
2000  
0317

IT 1318397 B1 20030825  
AT 301148 E 20050815 AT 2001-103237  
2001  
0212

US 2001047073 A1 20011129 US 2001-797593  
2001  
0305

US 6384178 B2 20020507  
JP 2001261811 A2 20010926 JP 2001-79254  
2001  
0319

PRIORITY APPLN. INFO.:

IT 2000-MI549 A  
2000  
0317

AB The polycarbonate diol with mol. weight >2000, useful in preparing thermoelastomeric polyurethane for coatings, adhesives and seals, is prepared by (a) reacting an alkyl carbonate (e.g., di-Me carbonate) with an aliphatic diol (e.g., 1,6-hexanediol) in the presence of a transesterification catalyst (e.g., tetraisopropyl titanate) to give a mixture containing a polycarbonate diol with mol. weight 500-2000; and (b) reacting the polycarbonate diol with an aryl carbonate (e.g., di-Ph carbonate).

IT 360069-40-5P  
(preparation of polycarbonate diols with a high mol. weight by two reaction steps)

RN 360069-40-5 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with diphenyl carbonate and 1,6-hexanediol (9CI) (CA INDEX NAME)

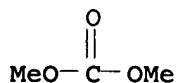
CM 1

CRN 629-11-8  
CMF C6 H14 O2

HO-(CH<sub>2</sub>)<sub>6</sub>-OH

CM 2

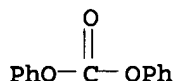
CRN 616-38-6  
CMF C3 H6 O3





CM 3

CRN 102-09-0  
CMF C13 H10 O3



IC ICM C08G064-30  
CC 35-2 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 38, 39, 42  
IT 360069-40-5P  
(preparation of polycarbonate diols with a high mol. weight by two reaction steps)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L54 ANSWER 22 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:319505 HCAPLUS

DOCUMENT NUMBER: 134:326932

TITLE: Thermoset polyurethane resins based on  
polycyclic polyisocyanates and method for the  
production thereof

INVENTOR(S): Haseyama, Ryuuji; Yoshida, Yoshio; Tsutsui,  
Tomoki; Koga, Nobuhito; Sasaoka, Kunio;  
Nishiguchi, Daisuke; Itoh, Hisato; Sakai,  
Seijiro

PATENT ASSIGNEE(S): Mitsui Chemicals, Inc., Japan

SOURCE: Eur. Pat. Appl., 50 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1095956	A2	20010502	EP 2000-309536	2000 1030
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EP 1095956	A3	20020102		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2001270929	A2	20011002	JP 2000-319511	2000 1019
<--				
CN 1308092	A	20010815	CN 2000-132870	2000 1025
<--				
BR 2000007115	A	20011002	BR 2000-7115	2000

1026

PRIORITY APPLN. INFO.:

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JP 1999-306524 A  
1999  
1028

<--  
JP 1999-307883 A  
1999  
1029

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JP 1999-307884 A  
1999  
1029

<--  
JP 2000-11114 A  
2000  
0120

<--  
JP 2000-11115 A  
2000  
0120

AB Thermoset polyurethanes having (i) Shore A hardness of 50 to 85, (ii) flexural modulus of 8 to 80 MPa, (iii) elongation of 130 to 600%, and (iv) no melt mark is observed after exposure to an atmospheric of 110° for 1000 h are typically prepared by reaction of polyether, polyester, and/or polycarbonate polyols and polycyclic aliphatic polyisocyanates (e.g., 2,5-diisocyanatomethyl bicyclo[2.2.1]heptane).

IT 101325-00-2DP, Dimethylcarbonate-1,6-hexanediol copolymer, polyurethanes 146789-33-5DP, 1,4-Butanediol-dimethylcarbonate copolymer, polyurethanes (thermoset; thermoset polyurethane resins based on polycyclic polyisocyanates and method for the production thereof)

RN 101325-00-2 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI)  
(CA INDEX NAME)

CM 1

CRN 629-11-8

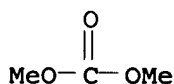
CMF C6 H14 O2

HO-(CH<sub>2</sub>)<sub>6</sub>-OH

CM 2

CRN 616-38-6

CMF C3 H6 O3



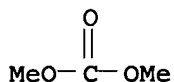
RN 146789-33-5 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol (9CI)  
(CA INDEX NAME)

CM 1

CRN 616-38-6

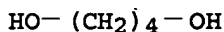
CMF C3 H6 O3



CM 2

CRN 110-63-4

CMF C4 H10 O2



IC ICM C08G018-10

ICS C08G018-38; C08G018-40; C08G018-75

CC 35-5 (Chemistry of Synthetic High Polymers)

IT 107-21-1DP, Ethylene glycol, polyurethanes 107-88-0DP,  
1,3-Butanediol, polyurethanes 110-63-4DP, 1,4-Butanediol,  
polyurethanes, preparation 629-11-8DP, 1,6-Hexanediol,  
polyurethanes 9003-11-6DP, Ethylene oxide-propylene oxide  
copolymer, polyurethanes 9082-00-2DP, Ethylene oxide-propylene  
oxide copolymer glycerol ether, polyurethanes 24936-97-8DP,  
Adipic acid-1,4-butanediol copolymer, sru, polyurethanes  
24937-06-2DP, Dimethylcarbonate-1,6-hexanediol copolymer, sru,  
polyurethanes 25103-87-1DP, Adipic acid-1,4-butanediol  
copolymer, polyurethanes 25805-40-7DP, 1,4-Butanediol-  
dimethylcarbonate copolymer, sru, polyurethanes 27925-07-1DP,  
Adipic acid-neopentyl glycol copolymer, polyurethanes  
28039-87-4DP, Adipic acid-neopentyl glycol copolymer, sru,  
polyurethanes 32912-51-9DP, isocyanurates, polyurethanes  
37280-83-4DP, Ethylene oxide-propylene oxide copolymer  
triethanolamine ether, polyurethanes 56449-05-9DP, Ethylene  
oxide-propylene oxide copolymer sorbitol ether, polyurethanes  
58205-99-5DP, Ethyleneoxide-propylene oxide copolymer  
pentaerythritol ether, polyurethanes 101325-00-2DP,  
Dimethylcarbonate-1,6-hexanediol copolymer, polyurethanes  
146789-33-5DP, 1,4-Butanediol-dimethylcarbonate copolymer,  
polyurethanes

(thermoset; thermoset polyurethane resins based on polycyclic  
polyisocyanates and method for the production thereof)

L54 ANSWER 23 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:152328 HCAPLUS

DOCUMENT NUMBER: 134:193913

TITLE: Branching of polyamides with esters of  
carboxylic acids

INVENTOR(S): Miroslav, Marek; Bruder, Friedrich; Douzinas,  
Konstadinos

PATENT ASSIGNEE(S): Bayer Aktiengesellschaft, Germany

SOURCE: Eur. Pat. Appl., 14 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1078949	A1	20010228	EP 1999-116725	1999 0826

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R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,  
 MC, PT, IE, SI, LT, LV, FI, RO  
 US 6498217 B1 20021224 US 2000-635605  
 2000  
0810

<--

CA 2316646	AA	20010226	CA 2000-2316646	2000 0824
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PRIORITY APPLN. INFO.: EP 1999-116725 A  
 1999  
0826

<--

AB The present invention is related to branching of high-mol.-weight polyamides using aliphatic or aromatic esters of carbonic acid. Di-Ph carbonate and polyamide 6,6 were reacted to give a branched polyamide.

IT 327986-14-1P, Adipic acid-dimethyl carbonate-hexamethylenediamine copolymer  
 (branching of polyamides with esters of carboxylic acids)

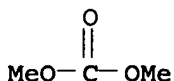
RN 327986-14-1 HCAPLUS

CN Hexanedioic acid, polymer with dimethyl carbonate and 1,6-hexanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 616-38-6

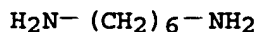
CMF C3 H6 O3



CM 2

CRN 124-09-4

CMF C6 H16 N2



CRN 124-04-9  
CMF C6 H10 O4

IC ICM C08G083-00  
ICS C08G069-48; C08G069-04  
CC 35-8 (Chemistry of Synthetic High Polymers)  
IT 327986-13-0P 327986-14-1P, Adipic acid-dimethyl  
carbonate-hexamethylenediamine copolymer 327986-15-2P, Adipic  
acid-diphenyl carbonate-hexamethylenediamine copolymer  
327986-16-3P 328067-86-3P  
(branching of polyamides with esters of carboxylic acids)  
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L54 ANSWER 24 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2001:143675 HCAPLUS  
DOCUMENT NUMBER: 134:194102  
TITLE: Manufacture of polycarbonate diols for  
preparation of polyurethanes  
INVENTOR(S): Matsuo, Mitsuhiro; Yokota, Hiroyoshi;  
Nakamura, Teruaki  
PATENT ASSIGNEE(S): Nippon Polyurethane Industry Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2001055437	A2	20010227	JP 1999-234533	1999 0820
			<--	
JP 3467769	B2	20031117		
PRIORITY APPLN. INFO.:			JP 1999-234533	1999 0820

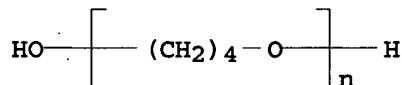
AB The polycarbonate diols are manufactured by reaction of polyoxytetramethylene diols (Mn 100-400) with low-mol.-weight carbonates chosen from alkylene carbonates, dialkylcarbonates, and diarylcarbonates. Thus, a polycarbonate diol prepared from di-Et carbonate and polytetramethylene glycol showed good compatibility with other diols. The polycarbonate diol was reacted with MDI and 1,4-butanediol to give a polyurethane with good mech. properties at low temps.

IT 171926-77-5P, Dimethyl carbonate-polytetramethylene glycol copolymer  
(manufacture of polycarbonate diols for preparation of polyurethanes with

good mech. properties)  
 RN 171926-77-5 HCAPLUS  
 CN Carbonic acid, dimethyl ester, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,4-butanediyl) (9CI) (CA INDEX NAME)

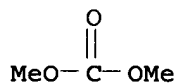
CM 1

CRN 25190-06-1  
 CMF (C4 H8 O)<sub>n</sub> H2 O  
 CCI PMS



CM 2

CRN 616-38-6  
 CMF C3 H6 O3



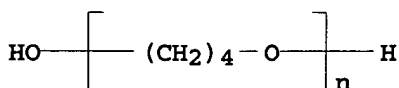
IT 128724-63-0P  
 (manufacture of polycarbonate diols for preparation of polyurethanes with good mech. properties)

RN 128724-63-0 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol,  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,4-butanediyl) and 1,1'-methylenebis[4-isocyanatobenzene], block (9CI) (CA INDEX NAME)

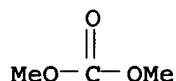
CM 1

CRN 25190-06-1  
 CMF (C4 H8 O)<sub>n</sub> H2 O  
 CCI PMS



CM 2

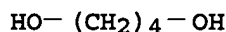
CRN 616-38-6  
 CMF C3 H6 O3



CM 3

CRN 110-63-4

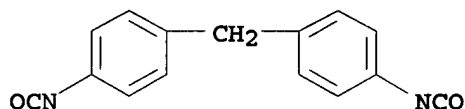
CMF C4 H10 O2



CM 4

CRN 101-68-8

CMF C15 H10 N2 O2



IC ICM C08G064-30

ICS C08G018-44

CC 37-3 (Plastics Manufacture and Processing)

IT 67184-92-3P, Diphenyl carbonate-polytetramethylene glycol

copolymer 92538-66-4P 125671-94-5P, Ethylene

carbonate-polytetramethylene glycol copolymer 171926-77-5P

, Dimethyl carbonate-polytetramethylene glycol copolymer

(manufacture of polycarbonate diols for preparation of polyurethanes with good mech. properties)

IT 92538-67-5P 128724-63-0P 327619-78-3P 327619-79-4P

(manufacture of polycarbonate diols for preparation of polyurethanes with good mech. properties)

L54 ANSWER 25 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:143666 HCAPLUS

DOCUMENT NUMBER: 134:194302

TITLE: Allyl-terminated polyester oligomers, their manufactures, and their cured optical materials

INVENTOR(S): Tanaka, Katsuyoshi; Kato, Kenji

PATENT ASSIGNEE(S): Nippon Oil and Fats Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

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JP 2001055416

A2

20010227

JP 1999-232192

1999  
0819

PRIORITY APPLN. INFO.:

JP 1999-232192

1999  
0819

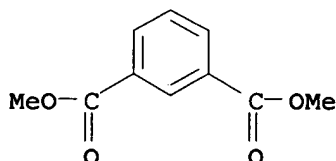
AB The oligomers, useful for lenses, having  $\geq 1$  allyl-terminated  $Z1[(R1Z2)m(R2Z3)n]g$  ( $Z1-Z3 = OCOACO2, OCO2$ ; A = phenylene, naphthalene, biphenylene;  $R1, R2 = C2-30$  dihydric alc. residue;  $m, n = 0-100$ ;  $g = 1-100$ ) are manufactured by reaction of (a) allyl alc. (I) esters and diols or (b) lower alc. esters, diols, and I in specific mol ratio. Thus, a transesterification product of diallyl isophthalate 1, diallyl carbonate 0.1, and propylene glycol 0.5 mol was cured to give a lens with sp. gr. 1.26, refractive index (JIS K 7105) 1.562, reduced shrinkage, and good impact resistance.

IT 327602-64-2P, Allyl alcohol-dimethyl carbonate-dimethyl isophthalate-propylene glycol copolymer  
(manufacture of allyl-terminated polyester oligomers for optical materials)

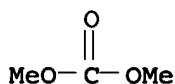
RN 327602-64-2 HCAPLUS

CN 1,3-Benzenedicarboxylic acid, dimethyl ester, polymer with dimethyl carbonate, 1,2-propanediol and 2-propen-1-ol (9CI) (CA INDEX NAME)

CM 1

CRN 1459-93-4  
CMF C10 H10 O4

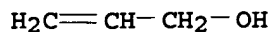
CM 2

CRN 616-38-6  
CMF C3 H6 O3

CM 3

CRN 107-18-6  
CMF C3 H6 O

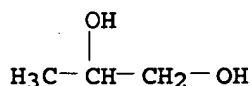




CM 4

CRN 57-55-6

CMF C3 H8 O2



IC ICM C08F018-14

ICS C08F018-16; G02B001-04

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 73

IT 327602-60-8P, Diallyl carbonate-diallyl isophthalate-propylene glycol copolymer 327602-61-9P, Diallyl carbonate-diallyl terephthalate-propylene glycol copolymer 327602-62-0P, 1,3-Butanediol-diallyl carbonate-diallyl isophthalate copolymer 327602-63-1P 327602-64-2P, Allyl alcohol-dimethyl carbonate-dimethyl isophthalate-propylene glycol copolymer (manufacture of allyl-terminated polyester oligomers for optical materials)

L54 ANSWER 26 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:28520 HCAPLUS

DOCUMENT NUMBER: 134:101610

TITLE: Manufacture of polyester carbonates as lubricants for synthetic fibers

INVENTOR(S): Birnbrich, Paul; Becker, Wolfgang; Bialas, Norbert; Tenhaef, Rolf; Mathis, Raymond

PATENT ASSIGNEE(S): Henkel K.-G.a.A., Germany

SOURCE: Ger. Offen., 10 pp.

CODEN: GWXXBX

DOCUMENT TYPE:

Patent

LANGUAGE:

German

FAMILY ACC. NUM. COUNT: 1

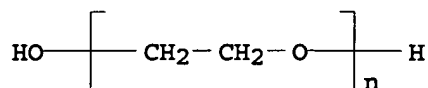
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19932292	A1	20010111	DE 1999-19932292	1999 0710
WO 2001004176	A1	20010118	WO 2000-EP6160	2000 0701
<--				
EP 1194470	A1	20020410	EP 2000-943963	2000 0701

W: BR, CN, KR, MX, TR, US  
 RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE

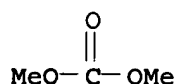


CMF (C2 H4 O)<sub>n</sub> H2 O  
CCI PMS



CM 4

CRN 616-38-6  
CMF C3 H6 O3



IC ICM C08L069-00  
ICS C08L067-00; D06M015-263  
CC 37-3 (Plastics Manufacture and Processing)  
Section cross-reference(s): 40  
IT 616-38-6DP, Dimethyl carbonate, polymers with polyethylene glycol and ethoxylated coco fatty acids 9003-11-6DP, Ethylene glycol-Propylene glycol copolymer, coco fatty acid esters, polymers with polyethylene glycol and di-Me carbonate 25322-68-3DP, Polyethylene glycol, polymers with di-Me carbonate and ethoxylated coco fatty acids 319459-81-9P, Dimethyl carbonate-polyethylene glycol copolymer dilaurate (manufacture of polyester carbonates as lubricant for synthetic fibers)

L54 ANSWER 27 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:889424 HCAPLUS

DOCUMENT NUMBER: 134:44553

TITLE: Polycarbonate polyols, polycarbonate polyol (meth)acrylates, and their application to solid polymer electrolytes

INVENTOR(S): Ishitoku, Takeshi; Nogi, Hidenobu

PATENT ASSIGNEE(S): Mitsui Chemical Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2000351843	A2	20001219	JP 1999-163632	1999 0610

PRIORITY APPLN. INFO.:

<--  
JP 1999-163632

1999  
0610

&lt;--

AB The polycarbonate polyols are polycondensation products of  $\text{HO}(\text{CH}_2\text{CH}_2\text{O})_n\text{H}$  ( $n = 2-10$ ),  $\text{HOROH}$  ( $R = \text{linear, branched, or cyclic C4-20 alkylene which may have ether linkages, excluding oxyethylene), and carbonyl compds. selected from carbonate diesters, COCl}_2$ , and chloroformate esters. (meth)acrylate esters of the polycarbonate polyols, polymers of the polycarbonate polyol (meth)acrylates, and solid polymer electrolytes containing Group Ia metals in the polycarbonate (meth)acrylates are also claimed. The polymer electrolytes are useful for primary and secondary batteries, capacitors, etc. Thus, a solid polymer electrolyte from  $\text{LiPF}_6$  and diethylene glycol-1,6-hexanediol-dimethyl carbonate copolymer acrylate showed ionic conductivity 3.7 mS/cm.

IT 312582-95-9DP, Diethylene glycol-dimethyl carbonate-1,6-hexanediol copolymer acrylate, lithium complexes  
 312582-97-1DP, 1,4-Butanediol-diethylene glycol-dimethyl carbonate copolymer acrylate, lithium complexes  
 312582-99-3DP, Diethylene glycol-dimethyl carbonate-3-methyl-1,5-pentanediol copolymer acrylate, lithium complexes  
 312583-01-0DP, Diethylene glycol-dimethyl carbonate-dipropylene glycol copolymer acrylate, lithium complexes  
 (preparation of polycarbonate polyol (meth)acrylates for solid polymer electrolytes)

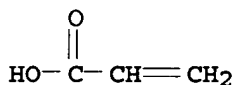
RN 312582-95-9 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and 2,2'-oxybis[ethanol], 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7

CMF C3 H4 O2



CM 2

CRN 312582-94-8

CMF (C6 H14 O2 . C4 H10 O3 . C3 H6 O3)x

CCI PMS

CM 3

CRN 629-11-8

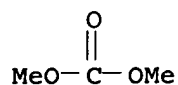
CMF C6 H14 O2



CM 4

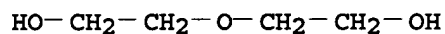
CRN 616-38-6

CMF C3 H6 O3



CM 5

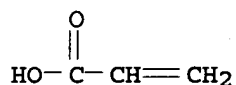
CRN 111-46-6  
CMF C4 H10 O3



RN 312582-97-1 HCAPLUS  
CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol and 2,2'-oxybis[ethanol], 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7  
CMF C3 H4 O2

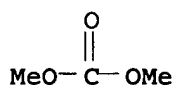


CM 2

CRN 312582-96-0  
CMF (C4 H10 O3 . C4 H10 O2 . C3 H6 O3)x  
CCI PMS

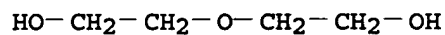
CM 3

CRN 616-38-6  
CMF C3 H6 O3



CM 4

CRN 111-46-6  
CMF C4 H10 O3



CM 5

CRN 110-63-4

CMF C4 H10 O2



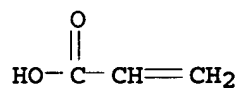
RN 312582-99-3 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 3-methyl-1,5-pentanediol and 2,2'-oxybis[ethanol], 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7

CMF C3 H4 O2



CM 2

CRN 312582-98-2

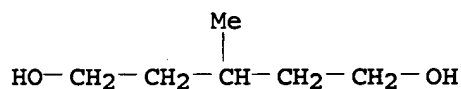
CMF (C6 H14 O2 . C4 H10 O3 . C3 H6 O3)x

CCI PMS

CM 3

CRN 4457-71-0

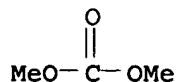
CMF C6 H14 O2



CM 4

CRN 616-38-6

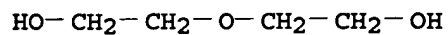
CMF C3 H6 O3



CM 5

CRN 111-46-6

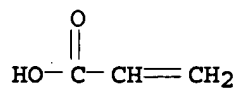
CMF C4 H10 O3



RN 312583-01-0 HCAPLUS  
 CN Carbonic acid, dimethyl ester, polymer with 2,2'-oxybis[ethanol]  
 and oxybis[propanol], 2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7  
 CMF C3 H4 O2

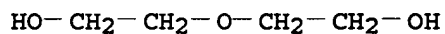


CM 2

CRN 312583-00-9  
 CMF (C6 H14 O3 . C4 H10 O3 . C3 H6 O3)x  
 CCI PMS

CM 3

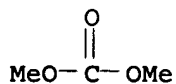
CRN 25265-71-8  
 CMF C6 H14 O3  
 CCI IDS



2 ( D1-Me )

CM 4

CRN 616-38-6  
 CMF C3 H6 O3



CM 5

CRN 111-46-6  
 CMF C4 H10 O3

HO-CH<sub>2</sub>-CH<sub>2</sub>-O-CH<sub>2</sub>-CH<sub>2</sub>-OH

IC ICM C08G064-30  
ICS C08F299-02; C08G064-02; C08G064-22; C08G064-42; H01B001-06;  
H01M006-18; H01M010-40  
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)  
Section cross-reference(s): 35, 76  
IT 7439-93-2DP, Lithium, polycarbonate polyol (meth)acrylate  
complexes, uses 21324-40-3DP, Lithium hexafluorophosphate,  
polycarbonate polyol (meth)acrylate complexes  
312582-95-9DP, Diethylene glycol-dimethyl  
carbonate-1,6-hexanediol copolymer acrylate, lithium complexes  
312582-97-1DP, 1,4-Butanediol-diethylene glycol-dimethyl  
carbonate copolymer acrylate, lithium complexes  
312582-99-3DP, Diethylene glycol-dimethyl  
carbonate-3-methyl-1,5-pentanediol copolymer acrylate, lithium  
complexes 312583-01-0DP, Diethylene glycol-dimethyl  
carbonate-dipropylene glycol copolymer acrylate, lithium complexes  
(preparation of polycarbonate polyol (meth)acrylates for solid  
polymer electrolytes)

L54 ANSWER 28 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 2000:823077 HCAPLUS  
DOCUMENT NUMBER: 134:12455  
TITLE: Polymer solid electrolyte  
INVENTOR(S): Ishitoku, Takeshi; Shindo, Masaharu  
PATENT ASSIGNEE(S): Mitsui Chemical Industry Co., Ltd., Japan;  
Yuasa Battery Co., Ltd.  
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000322931	A2	20001124	JP 1999-129216	1999 0510

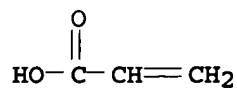
PRIORITY APPLN. INFO.: JP 1999-129216  
1999  
0510

AB The invention relates to a polymer solid electrolyte, suited for  
use in making batteries and capacitors, thus the electrolyte  
comprises the salt formed between Group IA metal element and  
poly(diethylene glycol carbonate)diacrylate or its copolymers.  
IT 303190-02-5DP, salts with lithium hexafluorophosphate  
303190-02-5P  
(polymer solid electrolyte.)  
RN 303190-02-5 HCAPLUS  
CN Carbonic acid, dimethyl ester, polymer with 2,2'-oxybis[ethanol],  
di-2-propenoate (9CI) (CA INDEX NAME)

CM 1



CRN 79-10-7  
CMF C3 H4 O2

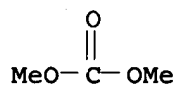


CM 2

CRN 197247-08-8  
CMF (C4 H10 O3 . C3 H6 O3)x  
CCI PMS

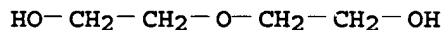
CM 3

CRN 616-38-6  
CMF C3 H6 O3



CM 4

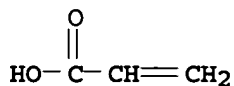
CRN 111-46-6  
CMF C4 H10 O3



RN 303190-02-5 HCAPLUS  
CN Carbonic acid, dimethyl ester, polymer with 2,2'-oxybis[ethanol],  
di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7  
CMF C3 H4 O2

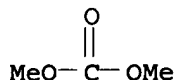


CM 2

CRN 197247-08-8  
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CCI PMS

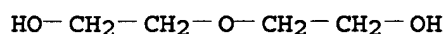
CM 3

CRN 616-38-6  
CMF C3 H6 O3



CM 4

CRN 111-46-6  
CMF C4 H10 O3



IC ICM H01B001-06  
ICS C08K003-24; C08L033-14; C08L055-00; H01G009-028; H01M006-18;  
H01M010-40; C08F020-28; C08F290-06; C08G063-64  
CC 76-10 (Electric Phenomena)  
Section cross-reference(s): 52  
IT 29011-12-9P, Diethylene glycol-dimethylcarbonate copolymer, SRU  
66536-64-9P 197247-08-8P, Diethylene glycol-dimethylcarbonate  
copolymer 303190-02-5DP, salts with lithium  
hexafluorophosphate 303190-02-5P  
(polymer solid electrolyte.)

L54 ANSWER 29 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:761990 HCAPLUS

DOCUMENT NUMBER: 133:337716

TITLE: Polycarbonate compositions, their manufacture,  
and uses in solid polymer electrolytes

INVENTOR(S): Ishitoku, Takeshi; Nogi, Hidenobu

PATENT ASSIGNEE(S): Mitsui Chemical Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.

CODEN: JKXXAF

DOCUMENT TYPE:

Patent

LANGUAGE:

Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000302861	A2	20001031	JP 1999-112870	1999 0420

PRIORITY APPLN. INFO.:

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JP 1999-112870

1999  
0420

AB The compns. contain polycarbonates R1O(XOCO2)nXOR2 [X = C2-20  
hydrocarbylene which may contain double bonds, aromatic rings, and  
ether linkages; a part of R1 and R2 is (meth)acryloyl and the rest  
of R1 and R2 is alkoxycarbonyl, phenoxycarbonyl, and/or H; n (average

number) = 1-1000]. The compns. are prepared by catalytic transesterification of polycarbonates with C1-4 alkyl (meth)acrylates. The solid polymer electrolytes contain polymerization products of the compns. above and Group Ia metal salts. The solid electrolytes, useful for batteries, capacitors, etc., show high ionic conductivity, electrochem. stability, and flexibility.

IT 303190-02-5P

(manufacture of polycarbonate (meth)acrylate compns. for solid polymer electrolytes for batteries and capacitors)

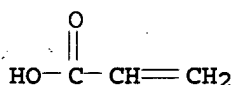
RN 303190-02-5 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 2,2'-oxybis[ethanol], di-2-propenoate (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7

CMF C3 H4 O2



CM 2

CRN 197247-08-8

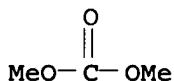
CMF (C4 H10 O3 . C3 H6 O3)x

CCI PMS

CM 3

CRN 616-38-6

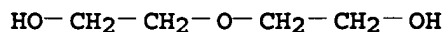
CMF C3 H6 O3



CM 4

CRN 111-46-6

CMF C4 H10 O3



IC ICM C08G064-42

ICS C08K003-10; C08L069-00; H01B001-06; H01G009-025; H01G009-028; H01M006-18; H01M010-40

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology) Section cross-reference(s): 35, 38, 76

IT 66536-64-9P 303190-01-4P 303190-02-5P

(manufacture of polycarbonate (meth)acrylate compns. for solid polymer electrolytes for batteries and capacitors)

L54 ANSWER 30 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2000:666800 HCAPLUS  
 DOCUMENT NUMBER: 133:253966  
 TITLE: High solids epoxy, melamine and isocyanate  
 clear coat compositions  
 INVENTOR(S): Nagata, Isao; Uhlianuk, Peter William;  
 Quashie, Sape Kewsi; White, Donald A.  
 PATENT ASSIGNEE(S): E. I. Du Pont de Nemours & Co., USA  
 SOURCE: PCT Int. Appl., 23 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 5  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000055231	A1	20000921	WO 2000-US6960	2000 0316
<--				
W: AU, BR, CA, CN, JP, KR, MX, NZ, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2361302	AA	20000921	CA 2000-2361302	2000 0316
<--				
AU 2000038900	A5	20001004	AU 2000-38900	2000 0316
<--				
AU 773223	B2	20040520		
EP 1233992	A1	20020828	EP 2000-918020	2000 0316
<--				
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY				
BR 2000010382	A	20030722	BR 2000-10382	2000 0316
<--				
JP 2003525966	T2	20030902	JP 2000-605656	2000 0316
<--				
NZ 514217	A	20040227	NZ 2000-514217	2000 0316
<--				
US 6855779	B1	20050215	US 2001-913574	2001 0813
<--				
PRIORITY APPLN. INFO.:			US 1999-124850P	P 1999 0317

<--  
US 1999-131146P P  
1999  
0424

<--  
US 1999-131145P P  
1999  
0427

<--  
WO 2000-US6960 W  
2000  
0316

AB A low VOC clear coat composition comprises an epoxy compound, a melamine component and an aliphatic polyisocyanate having an average of 2 to 6 isocyanate functionalities, and optionally contains a catalyst (e.g., organotin catalysts, acid catalysts and combinations); a polyhydroxyl functional compound (e.g., polycarbonate polyol); or other additives (e.g., light absorbers and light stabilizers). Also disclosed is an article coated with the clear coat composition, a process of making the composition, and a process of applying the composition to, for example, an automobile body.

IT 306970-89-8P  
(high solids epoxy, melamine and isocyanate clear coat compns.)

RN 306970-89-8 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 2,2-dimethyl-1,3-propanediol, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol and 1,6-hexanediol (9CI) (CA INDEX NAME)

CM 1

CRN 629-11-8

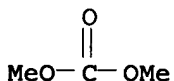
CMF C6 H14 O2

HO-(CH<sub>2</sub>)<sub>6</sub>-OH

CM 2

CRN 616-38-6

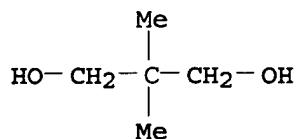
CMF C3 H6 O3



CM 3

CRN 126-30-7

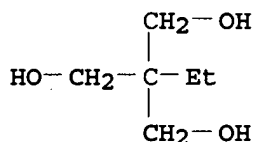
CMF C5 H12 O2



CM 4

CRN 77-99-6

CMF C6 H14 O3



IC ICM C08G018-44

ICS C09D175-04; C09D163-00

CC 42-9 (Coatings, Inks, and Related Products)

IT 306970-89-8P 306971-05-1P 306971-20-0P 306971-22-2P

(high solids epoxy, melamine and isocyanate clear coat compns.)

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L54 ANSWER 31 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:475447 HCAPLUS

DOCUMENT NUMBER: 133:105498

TITLE: Preparation of aliphatic oligocarbonate diols  
from dimethyl carbonate and aliphatic diols

INVENTOR(S): Langer, Reinhard; Buysch, Hans-Josef;  
Hovestadt, Wieland; Melchior, Martin

PATENT ASSIGNEE(S): Bayer A.-G., Germany

SOURCE: Eur. Pat. Appl., 12 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1018504	A1	20000712	EP 1999-125968	1999 1227
EP 1018504	B1	20021009		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
DE 19900554	A1	20000713	DE 1999-19900554	1999 0109

US 6156919	A	20001205	US 1999-461832	1999 1215
			<--	
AT 225765	E	20021015	AT 1999-125968	1999 1227
			<--	
ES 2185288	T3	20030416	ES 1999-125968	1999 1227
			<--	
JP 2000204062	A2	20000725	JP 2000-1676	2000 0107
			<--	
PRIORITY APPLN. INFO.:			DE 1999-19900554	A 1999 0109
			<--	

OTHER SOURCE(S): MARPAT 133:105498

AB The title diols, with terminal OH group blocking by MeOCO- groups <5%, are prepared from (MeO)2CO (I) and aliphatic diols I (conversion >80%) in the presence of soluble catalysts in a gas-liquid countercurrent apparatus with removal of MeOH and traces of I in an apparatus generating gas bubbles in the oligocarbonate. Adding 640 mL/h 1,6-hexanediol containing 0.28% KOH at 120° and 330 mL/h (MeO)2CO after evaporation at 120° to a column heated at 120° equipped with a dephlegmator held at 80° gave .apprx.712 g/h polycarbonate containing MeOH .apprx.4, (EtO)2CO 0.7, and hexanediol 7.4%.

IT 101325-00-2DP, Dimethyl carbonate-1,6-hexanediol copolymer, hydroxy-terminated 282534-14-9DP, 1,4-Cyclohexanedimethanol-dimethyl carbonate-1,6-hexanediol-neopentyl glycol copolymer, hydroxy-terminated 282534-15-0DP, Caprolactone-dimethyl carbonate-1,6-hexanediol copolymer, hydroxy-terminated (preparation of aliphatic oligocarbonate diols from di-Me carbonate and aliphatic diols)

RN 101325-00-2 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI)  
(CA INDEX NAME)

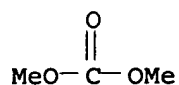
CM 1

CRN 629-11-8  
CMF C6 H14 O2

HO-(CH2)6-OH

CM 2

CRN 616-38-6  
CMF C3 H6 O3



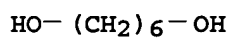
RN 282534-14-9 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,4-cyclohexanedimethanol, 2,2-dimethyl-1,3-propanediol and 1,6-hexanediol (9CI) (CA INDEX NAME)

CM 1

CRN 629-11-8

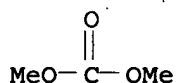
CMF C6 H14 O2



CM 2

CRN 616-38-6

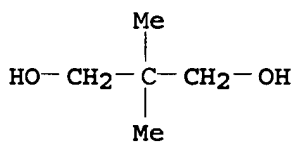
CMF C3 H6 O3



CM 3

CRN 126-30-7

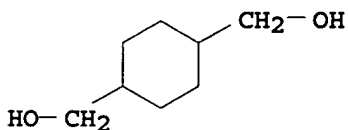
CMF C5 H12 O2



CM 4

CRN 105-08-8

CMF C8 H16 O2





RN 282534-15-0 HCAPLUS  
 CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and  
 2-oxepanone (9CI) (CA INDEX NAME)

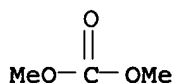
CM 1

CRN 629-11-8  
 CMF C6 H14 O2

HO-(CH<sub>2</sub>)<sub>6</sub>-OH

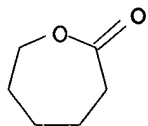
CM 2

CRN 616-38-6  
 CMF C3 H6 O3



CM 3

CRN 502-44-3  
 CMF C6 H10 O2



IC ICM C07C068-06  
 ICS C07C069-96; C08G064-30  
 CC 35-5 (Chemistry of Synthetic High Polymers)  
 IT 24937-06-2P, Dimethyl carbonate-1,6-hexanediol copolymer, sru  
 101325-00-2DP, Dimethyl carbonate-1,6-hexanediol  
 copolymer, hydroxy-terminated 282534-14-9DP,  
 1,4-Cyclohexanedimethanol-dimethyl carbonate-1,6-hexanediol-  
 neopentyl glycol copolymer, hydroxy-terminated  
 282534-15-0DP, Caprolactone-dimethyl carbonate-1,6-  
 hexanediol copolymer, hydroxy-terminated  
 (preparation of aliphatic oligocarbonate diols from di-Me carbonate and  
 aliphatic diols)

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE  
 FOR THIS RECORD. ALL CITATIONS AVAILABLE  
 IN THE RE FORMAT

L54 ANSWER 32 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2000:181043 HCAPLUS  
 DOCUMENT NUMBER: 132:193334  
 TITLE: Enzymic manufacture of poly(alkylene  
 carbonates)

INVENTOR(S): Matsumura, Shuichi  
 PATENT ASSIGNEE(S): Kawaken Fine Chemicals Co., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000080160	A2	20000321	JP 1998-252257	1998 0907

PRIORITY APPLN. INFO.:

<--  
 JP 1998-252257

1998  
0907

AB YO(CO2XO)nZ (X = C1-6 alkylene; Y = C1-5 alkyl, XOH; Z = H, CO2R; R = C1-5 alkyl; n ≥ 1) are manufactured by reaction of R2CO3 (R = C1-5 alkyl) with HOXOH (X = C1-6 alkylene) in the presence of enzymes. Di-Et carbonate and 1,3-propanediol were oligomerized in the presence of Novozym 435 (immobilized lipase) at 70° for 24 h and further polymerized under 0.5 mmHg for 7 h to give 34% poly(trimethylene carbonate) with average mol. weight 18,500.

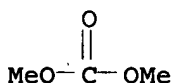
IT 146789-33-5P, 1,4-Butanediol-dimethyl carbonate copolymer (enzymic manufacture of poly(alkylene carbonates))

RN 146789-33-5 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol (9CI) (CA INDEX NAME)

CM 1

CRN 616-38-6  
 CMF C3 H6 O3



CM 2

CRN 110-63-4  
 CMF C4 H10 O2

HO-(CH<sub>2</sub>)<sub>4</sub>-OH

IC ICM C08G064-30  
 ICS C08G064-02  
 CC 16-4 (Fermentation and Bioindustrial Chemistry)  
 Section cross-reference(s): 35  
 IT 25805-40-7P, 1,4-Butanediol-dimethyl carbonate copolymer, sru  
 50862-75-4P, Diethyl carbonate-1,3-propanediol copolymer, sru

53192-41-9P, Diethyl carbonate-1,3-propanediol copolymer  
 146789-33-5P, 1,4-Butanediol-dimethyl carbonate copolymer  
 (enzymic manufacture of poly(alkylene carbonates))

L54 ANSWER 33 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 2000:37911 HCAPLUS  
 DOCUMENT NUMBER: 132:94137  
 TITLE: Manufacture of aliphatic polyester-  
 polycarbonates with little discoloration  
 INVENTOR(S): Kuriyama, Yasuhisa; Takakuwa, Kyohei; Ito,  
 Masaki; Nakamura, Mitsuru  
 PATENT ASSIGNEE(S): Mitsubishi Gas Chemical Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000017067	A2	20000118	JP 1998-185828	1998 0701

PRIORITY APPLN. INFO.: <-- JP 1998-185828  
 1998  
 0701

AB The polymers with carbonate unit content  $\geq 5$  mol%, Mw  $\geq 100,000$ , melt viscosity 1000-50,000 P at 190° under 60-kg load, and m.p. 70-180° are manufactured by oligomerization of aliphatic dihydroxy compds. and/or hydroxycarboxylic acids with aliphatic dibasic acids and/or their derivs. in the presence of transesterification catalysts to Mn  $\leq 10,000$  and further reaction with aliphatic carbonates. Thus, 18,740 g succinic acid and 21,430 g 1,4-butanediol were heated in the presence of Ti tetraisopropoxide and Zn(OAc)<sub>2</sub> to obtain an oligomer, 24,000 g of which was further treated with di-Et carbonate to give a poly(ester-carbonate), showing m.p. 104°, Mw 186,000, carbonate unit content 14.1%, and yellowness index 0.5 as a CHCl<sub>3</sub> solution

IT 254758-15-1P  
 (manufacture of aliphatic polyester-polycarbonates with little discoloration)

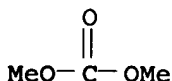
RN 254758-15-1 HCAPLUS

CN Butanedioic acid, polymer with 1,4-butanediol and dimethyl carbonate (9CI) (CA INDEX NAME)

CM 1

CRN 616-38-6

CMF C3 H6 O3



CM 2

CRN 110-63-4  
CMF C4 H10 O2 $\text{HO}-(\text{CH}_2)_4-\text{OH}$ 

CM 3

CRN 110-15-6  
CMF C4 H6 O4 $\text{HO}_2\text{C}-\text{CH}_2-\text{CH}_2-\text{CO}_2\text{H}$ 

IC ICM C08G063-82  
ICS C08G063-64  
CC 37-3 (Plastics Manufacture and Processing)  
IT 254758-14-0P, 1,4-Butanediol-diethyl carbonate-succinic acid  
copolymer 254758-15-1P 254758-16-2P 254758-17-3P  
(manufacture of aliphatic polyester-polycarbonates with little  
discoloration)

L54 ANSWER 34 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2000:15609 HCAPLUS

DOCUMENT NUMBER: 132:79294

TITLE: Production and use of polymers with terminal  
hydroxy groupsINVENTOR(S): Westfechtel, Alfred; Gruetzmacher, Roland;  
Grundt, Elke

PATENT ASSIGNEE(S): Henkel Kgaa, Germany

SOURCE: Ger. Offen., 8 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19829593	A1	20000105	DE 1998-19829593	1998 0702
CA 2336400	AA	20000113	CA 1999-2336400	1999 0623
WO 2000001755	A2	20000113	WO 1999-EP4351	1999 0623
WO 2000001755	A3	20010907		

W: CA, JP, US

RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU,  
MC, NL, PT, SE

EP 1091993 A1 20010418 EP 1999-932714

1999  
0623

&lt;--

EP 1091993 B1 20020522

R: AT, BE, CH, DE, FR, GB, IT, LI, NL

AT 217893 E 20020615 AT 1999-932714

1999  
0623

&lt;--

JP 2002519491 T2 20020702 JP 2000-558153

1999  
0623

&lt;--

US 6566563 B1 20030520 US 2001-720890

2001  
0504

&lt;--

PRIORITY APPLN. INFO.:-

DE 1998-19829593 A

1998  
0702

&lt;--

WO 1999-EP4351 W

1999  
0623

&lt;--

AB Diols with terminal methylol groups are heated at 110-160° with with Me<sub>2</sub>CO<sub>3</sub> in the presence of a Ti catalyst with release of MeOH, the temperature is raised to 190-240° at <100 mbar, and the catalyst is deactivated at 80-120° with 0.8-2 equiv H<sub>3</sub>PO<sub>4</sub> in the form of a 1-20% aqueous solution The product is suitable for incorporation into a polyurethane. In examples, polytetramethylene glycol or Sovermol 908 were condensed with Me<sub>2</sub>CO<sub>3</sub> in the presence of Ti(OBu)<sub>4</sub> and the product was copolymd. with Desmodur VL.

IT 253584-47-3P, Desmodur VL-dimethyl carbonate-PTMG block copolymer

(preparation of hydroxy-terminated polymers for use with polyurethanes)

RN 253584-47-3 HCAPLUS

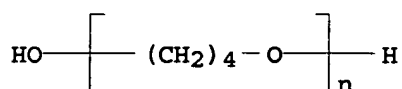
CN Carbonic acid, dimethyl ester, polymer with α-hydro-ω-hydroxypoly(oxy-1,4-butanediyl) and polymethylenepolyphenylene isocyanate, block (9CI) (CA INDEX NAME)

CM 1

CRN 25190-06-1

CMF (C<sub>4</sub> H<sub>8</sub> O)<sub>n</sub> H<sub>2</sub> O

CCI PMS



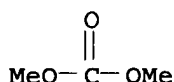
CM 2

CRN 9016-87-9  
 CMF Unspecified  
 CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 3

CRN 616-38-6  
 CMF C3 H6 O3



IT 171926-77-5P

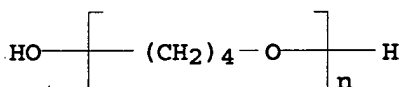
(preparation of hydroxy-terminated polymers for use with polyurethanes)

RN 171926-77-5 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,4-butanediyl) (9CI) (CA INDEX NAME)

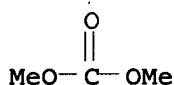
CM 1

CRN 25190-06-1  
 CMF (C4 H8 O)<sub>n</sub> H2 O  
 CCI PMS



CM 2

CRN 616-38-6  
 CMF C3 H6 O3



IC ICM C08G064-00

ICS C08G065-32; C08G018-44

CC 37-3 (Plastics Manufacture and Processing)

IT 253584-47-3P, Desmodur VL-dimethyl carbonate-PTMG block  
 copolymer 253584-48-4P, Desmodur VL-dimethyl carbonate-Sovermol  
 VOL 908 copolymer

(preparation of hydroxy-terminated polymers for use with polyurethanes)

IT 171926-77-5P 253584-46-2P, Dimethyl carbonate-Sovermol  
 POL 908 copolymer

(preparation of hydroxy-terminated polymers for use with polyurethanes)

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L54 ANSWER 35 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:648864 HCAPLUS

DOCUMENT NUMBER: 131:272672

TITLE: Antistatic agents with good heat resistance and resin composition therewith

INVENTOR(S): Ichihara, Eiji

PATENT ASSIGNEE(S): Sanyo Chemical Industries Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	---	-----	-----	
JP 11279330	A2	19991012	JP 1998-100313	1998 0326

PRIORITY APPLN. INFO.:

<--  
JP 1998-100313

1998  
0326

AB The agents are compds. having countered anions and  $\geq 2$  cationic groups, where the countered anions are derived from ultra-strong acids and the cationic groups linked with a nonionic mol. chain. Reaction of ethoxylated bisphenol A with epichlorohydrin in the presence of Bu<sub>4</sub>NBr and NaOH at 40-50°, polymerization of the diglycidyl ether with N-methylethanolamine, quaternization with MeCl, and salt exchange with NaBF<sub>4</sub> gave an antistatic agent with initial weight loss temperature 280°. Panlite L1225W (polycarbonate, 100 parts) was kneaded with 10 parts this agent and injection molded to give test pices with surface resistivity 8 x 10<sup>11</sup> initially and 2 x 10<sup>12</sup> Ω after heating 24 h at 120°.

IT 245436-76-4DP, reaction products with hexafluorophosphoric acid

(antistatic agent with good heat resistance and resin composition therewith)

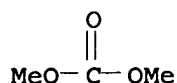
RN 245436-76-4 HCAPLUS

CN Hexanedioic acid, polymer with 2,2'-(methylimino)bis[ethanol], compd. with dimethyl carbonate (9CI) (CA INDEX NAME)

CM 1

CRN 616-38-6

CMF C3 H6 O3



CM 2

CRN 30792-57-5

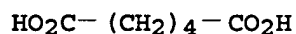
CMF (C6 H10 O4 . C5 H13 N O2)x

CCI PMS

CM 3

CRN 124-04-9

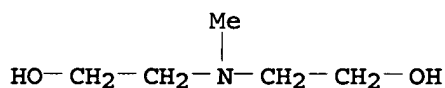
CMF C6 H10 O4



CM 4

CRN 105-59-9

CMF C5 H13 N O2



IC ICM C08K005-19

ICS C08K005-50; C08L101-02

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 38

IT 245436-74-2DP, reaction products with sodium tetrafluoroborate

245436-75-3DP, reaction products with sodium

trifluoromethanesulfonate 245436-76-4DP, reaction

products with hexafluorophosphoric acid 245436-77-5DP, reaction

products with sodium tetrafluoroborate

(antistatic agent with good heat resistance and resin composition therewith)

L54 ANSWER 36 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:341068 HCAPLUS

DOCUMENT NUMBER: 131:52719

TITLE: Acrylic polycarbonate-based polymer solid electrolyte

INVENTOR(S): Shindo, Masaharu; Ishitoku, Takeshi

PATENT ASSIGNEE(S): Mitsui Chemicals Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE:

Patent

LANGUAGE:

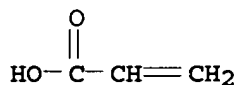
Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:



PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11144524	A2	19990528	JP 1997-308968	1997 1111
JP 3683086	B2	20050817	<--	
PRIORITY APPLN. INFO.:			JP 1997-308968	1997 1111
AB	The electrolyte contains a polymer of a polycarbonate polyol (meth)acrylate and a Group IA metal salt. The solid electrolyte with improved chemical stability is suitable for batteries, elec. capacitors, etc.			
IT	227085-06-5P (solid electrolyte comprising polycarbonate (meth)acrylate polymer and Group IA metal salt)			
RN	227085-06-5 HCAPLUS			
CN	Carbonic acid, dimethyl ester, polymer with $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) ether with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol (3:1), and 2,2'-oxybis[ethanol], 2-propenoate (9CI) (CA INDEX NAME)			
CM	1			
CRN	79-10-7			
CMF	C3 H4 O2			



CM 2

CRN 220301-90-6

CMF (C4 H10 O3 . C3 H6 O3 . (C2 H4 O)n (C2 H4 O)n (C2 H4 O)n C6 H14 O3)x

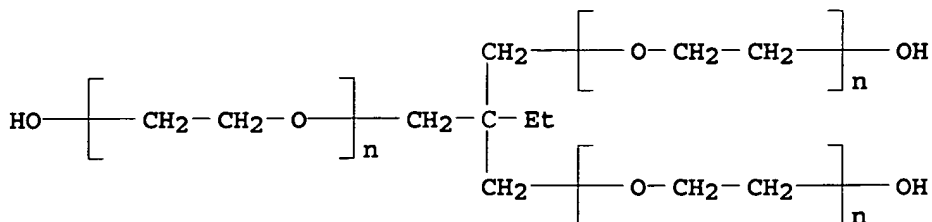
CCI PMS

CM 3

CRN 50586-59-9

CMF (C2 H4 O)n (C2 H4 O)n (C2 H4 O)n C6 H14 O3

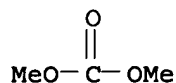
CCI PMS



CM 4

CRN 616-38-6

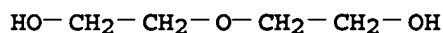
CMF C3 H6 O3



CM 5

CRN 111-46-6

CMF C4 H10 O3



IC ICM H01B001-12

ICS C08F290-02; C08G064-02; C08K003-00; C08L069-00; H01G009-025;  
H01G009-028; H01M006-18; H01M010-40

CC 76-2 (Electric Phenomena)

Section cross-reference(s): 38, 72

IT 225658-69-5P, Diethylene glycol-dimethyl carbonate-Polyethylene glycol ether with trimethylolpropane copolymer methacrylic acid ester 227085-05-4P, Diethylene glycol-dimethyl carbonate copolymer methacrylic acid ester 227085-06-5P

(solid electrolyte comprising polycarbonate (meth)acrylate polymer and Group IA metal salt)

L54 ANSWER 37 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:292625 HCAPLUS

DOCUMENT NUMBER: 130:299204

TITLE: Working fluids for refrigerating cycle equipment and the refrigerating cycle equipment using them

INVENTOR(S): Kawakami, Tetsuji; Nakajima, Keizo; Sawai, Kiyoshi; Ueno, Takayoshi

PATENT ASSIGNEE(S): Matsushita Electric Industrial Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 25 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 913456	A2	19990506	EP 1998-308813	1998 1028
			<--	
EP 913456	A3	19990818		

EP 913456 B1 20040218  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,  
 MC, PT, IE, SI, LT, LV, FI, RO  
 JP 2000008063 A2 20000111 JP 1998-318385

1998  
 1020

US 6268317 B1 20010731 US 1998-179209

1998  
 1027

CN 1218821 A 19990609 CN 1998-123731

1998  
 1030

CN 1094147 B 20021113  
 PRIORITY APPLN. INFO.: JP 1997-298273 A  
 1997  
 1030

JP 1998-115024 A  
 1998  
 0424

OTHER SOURCE(S): MARPAT 130:299204

AB A working fluid which demonstrates a preferable performance even with a small filling amount of the refrigerant of hydrocarbons containing no halogen atom such as ethane, propane, butane, isobutane, etc., into the refrigerating cycle equipment is disclosed. There is also disclosed a refrigerating cycle equipment excellent in the safety against the worst case of the refrigerant leakage, brought by the use of the above-mentioned working fluid. The working fluid comprises the refrigerant of hydrocarbons containing 2-4 carbon atoms and no halogen atom, and a lubricating oil for a refrigerator containing, as its main component, an ester compound which is incompatible with the above-mentioned refrigerant.

IT 74-84-0, Ethane, uses 74-98-6, R 290, uses  
 106-97-8, Butane, uses  
 (refrigerant; working fluids for refrigerating cycle equipment and the refrigerating cycle equipment using them)

RN 74-84-0 HCAPLUS

CN Ethane (8CI, 9CI) (CA INDEX NAME)

H<sub>3</sub>C-CH<sub>3</sub>

RN 74-98-6 HCAPLUS

CN Propane (8CI, 9CI) (CA INDEX NAME)

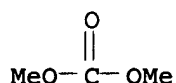
H<sub>3</sub>C-CH<sub>2</sub>-CH<sub>3</sub>

RN 106-97-8 HCAPLUS

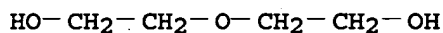
CN Butane (8CI, 9CI) (CA INDEX NAME)

H<sub>3</sub>C-CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>3</sub>

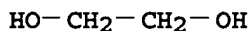
IT 223459-34-5P  
 (working fluids for refrigerating cycle equipment and the  
 refrigerating cycle equipment using them)  
 RN 223459-34-5 HCAPLUS  
 CN Carbonic acid, dimethyl ester, polymer with 1,2-ethanediol and  
 2,2'-oxybis[ethanol] (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 616-38-6  
 CMF C3 H6 O3



CM 2  
 CRN 111-46-6  
 CMF C4 H10 O3



CM 3  
 CRN 107-21-1  
 CMF C2 H6 O2



IC ICM C10M171-00  
 ICS C10M105-48; C10M107-32; C10M107-34; C09K005-04; C08G059-62;  
 C08G064-02; C07D317-36  
 ICI C10N040-30  
 CC 51-8 (Fossil Fuels, Derivatives, and Related Products)  
 IT 74-84-0, Ethane, uses 74-98-6, R 290, uses  
 75-28-5, Isobutane 106-97-8, Butane, uses  
 (refrigerant; working fluids for refrigerating cycle equipment  
 and the refrigerating cycle equipment using them)  
 IT 25718-55-2P, Poly(ethylene carbonate), SRU 88754-66-9P  
 116170-01-5P 130331-84-9P 147876-32-2P 223459-33-4P  
 223459-34-5P 223459-35-6P 223459-36-7P 223459-38-9P  
 223459-40-3P 223459-42-5P 223459-43-6P 223459-44-7P  
 223459-45-8P  
 (working fluids for refrigerating cycle equipment and the  
 refrigerating cycle equipment using them)

L54 ANSWER 38 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1999:111752 HCAPLUS  
 DOCUMENT NUMBER: 130:154116  
 TITLE: Crosslinked polycarbonate and polylactic acid

INVENTOR(S): composition containing the same  
Ishihara, Jiro; Kuyama, Hiroki; Ozeki, Eiichi;  
Ishitoku, Takeshi; Tanaka, Masahide; Sakamoto,  
Naoya  
PATENT ASSIGNEE(S): Shimadzu Corporation, Japan; Mitsui Chemicals,  
Inc.  
SOURCE: Eur. Pat. Appl., 26 pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 896013	A1	19990210	EP 1998-114235	1998 0729

<--

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,  
MC, PT, IE, SI, LT, LV, FI, RO  
US 5952450 A 19990914 US 1998-127075  
1998  
0731

<--

JP 11116668	A2	19990427	JP 1998-236494	1998 0806
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JP 11140292	A2	19990525	JP 1998-257600	1998 0826
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PRIORITY APPLN. INFO.: JP 1997-225673 A  
1997  
0806

<--

JP 1997-246173 A  
1997  
0827

<--

AB A crosslinked polycarbonate is obtained by polycondensation of (A) a diol, (B) a trivalent or higher polyhydric alc. in which any two hydroxy groups are not positioned in a 1,2- or 1,3- relationship, and (C) a carbonyl component such as a carbonic acid diester. This crosslinked polycarbonate is used as a modifier for polylactic acids. The brittleness of the polylactic acid is improved while maintaining mech. strength, thermal stability, and transparency.

IT 220301-88-2P 220301-91-7P  
(crosslinked polycarbonate and polylactic acid composition containing the same)

RN 220301-88-2 HCAPLUS

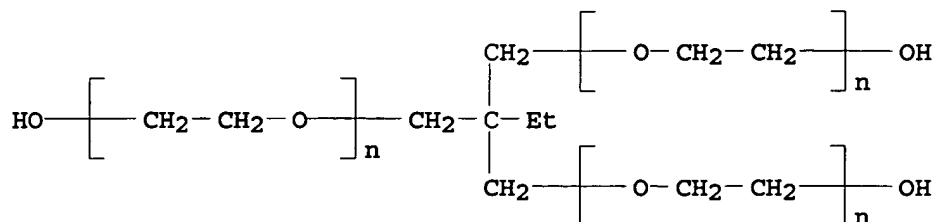
CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol and  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) ether with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol (3:1) (9CI) (CA INDEX NAME)

CM 1

CRN 50586-59-9

CMF (C2 H4 O)n (C2 H4 O)n (C2 H4 O)n C6 H14 O3

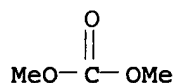
CCI PMS



CM 2

CRN 616-38-6

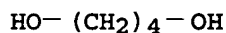
CMF C3 H6 O3



CM 3

CRN 110-63-4

CMF C4 H10 O2



RN 220301-91-7 HCAPLUS

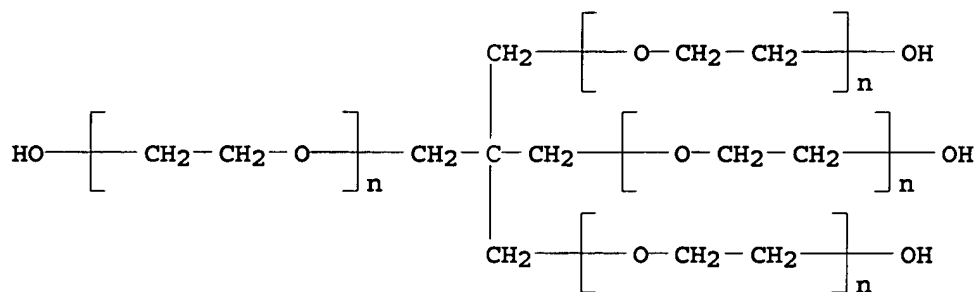
CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol and  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1) (9CI) (CA INDEX NAME)

CM 1

CRN 42503-45-7

CMF (C2 H4 O)n (C2 H4 O)n (C2 H4 O)n (C2 H4 O)n C5 H12 O4

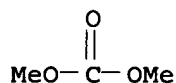
CCI PMS



CM 2

CRN 616-38-6

CMF C3 H6 O3



CM 3

CRN 110-63-4

CMF C4 H10 O2



IC ICM C08G064-20

ICS C08L069-00; C08L067-04; C08L067-00; C08G064-02

CC 35-5 (Chemistry of Synthetic High Polymers)

IT 220301-88-2P 220301-89-3P 220301-90-6P

220301-91-7P 220301-92-8P

(crosslinked polycarbonate and polylactic acid composition containing the same)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L54 ANSWER 39 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:712680 HCAPLUS

DOCUMENT NUMBER: 129:343830

TITLE: Polycarbonates for giving polyurethanes and  
polyamide or polyester elastomers with good  
hydrolysis and cold resistances, flexibility,  
and dynamic property

INVENTOR(S): Ito, Shingo; Umezawa, Masao

PATENT ASSIGNEE(S): Du Pont-Toray Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

## PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10292037	A2	19981104	JP 1997-118842	1997 0421

## PRIORITY APPLN. INFO.:

<--

JP 1997-118842  
1997  
0421

AB Title polycarbonates are composed of repeating units of CO<sub>2</sub>AO [A = diol residues of (CH<sub>2</sub>)<sub>6</sub> (I) and CH<sub>2</sub>CMe<sub>2</sub>CH<sub>2</sub> (II) (mol ratio of II/I = 5/95-45/55)]. The polycarbonates are useful as raw materials for polyurethanes, polyamide or polyester elastomers, coatings, and adhesives. Thus, 514 g a reaction product [prepared from di-Me carbonate 903, 1,6-hexanediol (III) 509, and neopentyl glycol 62.4 g] and 127.4 g III were polymerized at 200° to obtain a polycarbonate [mol. weight 10,000; OH value 57; hue (APHA) 80; mol ratio of II/I = 7/93], which was polymerized with polyisocyanates to give a polyurethane with good hydrolysis and cold resistances, flexibility, and dynamic property.

IT 127695-57-2P, Dimethyl carbonate-1,6-hexanediol-neopentyl glycol copolymer

(polycarbonates for giving polyurethanes and polyamide or polyester elastomers with good hydrolysis and cold resistances, flexibility, and dynamic property)

RN 127695-57-2 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 2,2-dimethyl-1,3-propanediol and 1,6-hexanediol (9CI) (CA INDEX NAME)

CM 1

CRN 629-11-8

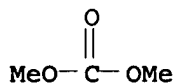
CMF C6 H14 O2

HO-(CH<sub>2</sub>)<sub>6</sub>-OH

CM 2

CRN 616-38-6

CMF C3 H6 O3

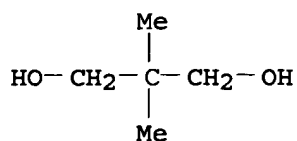


CM 3

CRN 126-30-7

CMF C5 H12 O2





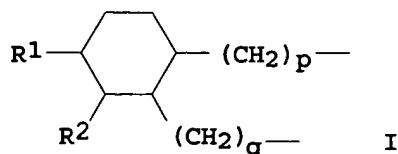
IC ICM C08G064-02  
 ICS C08G018-44; C08G063-64; C08G064-30; C08G069-00; C09D169-00;  
 C09J169-00  
 CC 35-5 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): 38, 39, 42  
 IT 127695-57-2P, Dimethyl carbonate-1,6-hexanediol-neopentyl  
 glycol copolymer  
 (polycarbonates for giving polyurethanes and polyamide or  
 polyester elastomers with good hydrolysis and cold resistances,  
 flexibility, and dynamic property)

L54 ANSWER 40 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1998:614354 HCAPLUS  
 DOCUMENT NUMBER: 129:276542  
 TITLE: Manufacture of polyurethanes with good  
 mechanical strength and resistance to heat,  
 hydrolysis, cold, and weather  
 INVENTOR(S): Okamoto, Hidetada; Kunimura, Masaru;  
 Funakoshi, Tsutomu  
 PATENT ASSIGNEE(S): Ube Industries, Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10251369	A2	19980922	JP 1997-61161	1997 0314

PRIORITY APPLN. INFO.: JP 1997-61161  
 1997  
 0314

GI



AB Title polyurethanes have (A) repeating unit  $\text{NHCO}_2(\text{ROCO}_2)_n\text{RO}_2\text{CNH}$  [R  
 = diol residue I or  $(\text{CH}_2)_r\text{CHR}_3\text{CHR}_4(\text{CH}_2)_s$ ; R1-4 = alkyl; total of  
 p, q, and C number in R1 and R2 is 30; total of r, s, and C number in R3

and R4 is 34; n = 1-50] and (B) repeating unit  $\text{NHCO}_2\text{R}'\text{O}_2\text{CNH}$  ( $\text{R}' = \text{alkyl}$ ) at (B)/(A) mol ratio 1/10-10/1. The polyurethanes are manufactured by transesterifying HOROH ( $\text{R} = \text{same as above}$ ) with carbonates in the presence of catalysts at 110-280° under ordinary pressure and at 110-280° under reduced pressure while removing byproduct alcs. or phenols to obtain (C)  $\text{HO(ROCO}_2\text{)nROH}$ , mixing (C), (D) chain extenders, and (E) organic diisocyanates at (D)/(C) mol ratio 1/10-10/1 and [active H in (D)]:[NCO in (E)] equiv ratio 1:0.8-1:1.2, and polymerizing the mixts. Thus, a polycarbonate diol [prepared from 0.85 mol Bepol HP 1000 (dimer diol) and 0.81 mol  $(\text{MeO})_2\text{CO}$ ] 0.0756, 1,4-butanediol 0.151, and MDI 0.247 mol were polymerized in the presence of  $(\text{BuO})_4\text{Ti}$  in 1:1 DMF/PhMe mixture, applied on a glass plate, and dried to give a coating film showing breaking strength 300 kg/cm<sup>2</sup>, elongation 480%, glass-transition temperature -42°, good resistance to heat, hydrolysis, and weather.

IT 213739-93-6P, Bepol HP 1000-1,4-butanediol-dimethyl carbonate-MDI block copolymer 213739-97-0P, Bepol HP 1000-dimethyl carbonate-HDI-1,6-hexanediol block copolymer (manufacture of block polycarbonate-polyurethanes with good resistance to heat, hydrolysis, cold, and weather)

RN 213739-93-6 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol, 1,1'-methylenebis[4-isocyanatobenzene] and Pespel HP 1000, block (9CI) (CA INDEX NAME)

CM 1

CRN 186673-41-6

CMF Unspecified

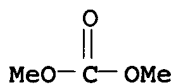
CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 616-38-6

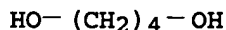
CMF C3 H6 O3



CM 3

CRN 110-63-4

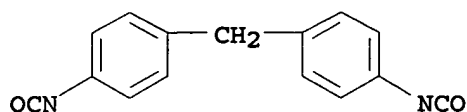
CMF C4 H10 O2



CM 4

CRN 101-68-8

CMF C15 H10 N2 O2



RN 213739-97-0 HCAPLUS  
 CN Carbonic acid, dimethyl ester, polymer with 1,6-diisocyanatohexane, 1,6-hexanediol and Pespol HP 1000, block (9CI)  
 (CA INDEX NAME)

CM 1

CRN 186673-41-6

CMF Unspecified

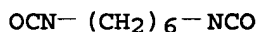
CCI MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 822-06-0

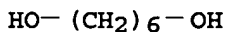
CMF C8 H12 N2 O2



CM 3

CRN 629-11-8

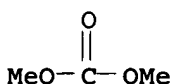
CMF C6 H14 O2



CM 4

CRN 616-38-6

CMF C3 H6 O3



IC ICM C08G018-44  
 ICS C08G018-08; C08G018-32  
 CC 35-5 (Chemistry of Synthetic High Polymers)  
 IT 213739-93-6P, Bepol HP 1000-1,4-butanediol-dimethyl carbonate-MDI block copolymer 213739-95-8P, Bepol HP 1000-1,4-butanediol-diphenyl carbonate-MDI block copolymer 213739-97-0P, Bepol HP 1000-dimethyl carbonate-HDI-1,6-hexanediol block copolymer

(manufacture of block polycarbonate-polyurethanes with good resistance to heat, hydrolysis, cold, and weather)

L54 ANSWER 41 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1998:561312 HCAPLUS  
 DOCUMENT NUMBER: 129:176145  
 TITLE: Poly(2,2,4,4-tetramethyl-1,3-cyclobutylene carbonate) and manufacture thereof  
 INVENTOR(S): Walker, Theodore Rossevelt; Darnell, William Ronald; Fleischer, Jean Carroll  
 PATENT ASSIGNEE(S): Eastman Chemical Co., USA  
 SOURCE: Eur. Pat. Appl., 12 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 857743	A2	19980812	EP 1997-122802	1997 1223

EP 857743 A3 19990224  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,  
 MC, PT, IE, SI, LT, LV, FI, RO

PRIORITY APPLN. INFO.: US 1996-34164P P  
 1996  
 1228

AB The title polymer is prepared by mixing (i) 2,2,4,4-tetramethyl-1,3-cyclobutanediol, (ii) di-Me carbonate, and (iii) a basic catalyst, then heating the mixture to produce an intermediate, followed by heating the intermediate at  $\leq 300^{\circ}\text{C}$  to produce the polycarbonate.

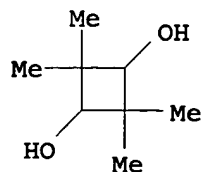
IT 211512-73-1P, 1,6-Hexanediol-dimethyl carbonate-2,2,4,4-tetramethyl-1,3-cyclobutanediol copolymer 211512-75-3P (poly(2,2,4,4-tetramethyl-1,3-cyclobutylene carbonate) and manufacture thereof)

RN 211512-73-1 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and 2,2,4,4-tetramethyl-1,3-cyclobutanediol (9CI) (CA INDEX NAME)

CM 1

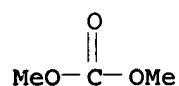
CRN 3010-96-6  
 CMF C8 H16 O2



CM 2

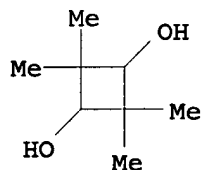
CRN 629-11-8  
CMF C6 H14 O2

CM 3

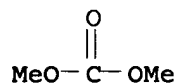
CRN 616-38-6  
CMF C3 H6 O3

RN 211512-75-3 HCAPLUS  
 CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol and  
 2,2,4,4-tetramethyl-1,3-cyclobutanediol (9CI) (CA INDEX NAME)

CM 1

CRN 3010-96-6  
CMF C8 H16 O2

CM 2

CRN 616-38-6  
CMF C3 H6 O3

CM 3

CRN 110-63-4  
CMF C4 H10 O2

IC ICM C08G064-30  
ICS C08G064-02  
CC 35-5 (Chemistry of Synthetic High Polymers)  
IT 25722-32-1P, Dimethyl carbonate-2,2,4,4-tetramethyl-1,3-cyclobutanediol copolymer, sru 116964-88-6P, Dibutyl carbonate-2,2,4,4-tetramethyl-1,3-cyclobutanediol copolymer 209911-70-6P, Dimethyl carbonate-2,2,4,4-tetramethyl-1,3-cyclobutanediol copolymer 211512-68-4P, Diethyl carbonate-2,2,4,4-tetramethyl-1,3-cyclobutanediol copolymer 211512-71-9P, 1,4-Cyclohexanedimethanol-dimethyl carbonate-2,2,4,4-tetramethyl-1,3-cyclobutanediol copolymer 211512-73-1P, 1,6-Hexanediol-dimethyl carbonate-2,2,4,4-tetramethyl-1,3-cyclobutanediol copolymer 211512-75-3P (poly(2,2,4,4-tetramethyl-1,3-cyclobutylene carbonate) and manufacture thereof)

L54 ANSWER 42 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:410718 HCAPLUS

DOCUMENT NUMBER: 129:95861

TITLE: Polycarbonate copolyester diols their preparation and use

INVENTOR(S): Greco, Alberto

PATENT ASSIGNEE(S): Enichem S.P.A., Italy

SOURCE: Eur. Pat. Appl., 24 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 849303	A2	19980624	EP 1997-119779	1997 1112

<--

EP 849303	A3	19980812		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
US 5929193	A	19990727	US 1997-974917	1997 1120

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JP 11001549	A2	19990106	JP 1997-351784	1997 1219
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PRIORITY APPLN. INFO.:	IT 1996-MI2662	A	1996 1219
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AB Polycarbonate co-polyester diols with a mol. weight 1000-6000, the polycarbonate or polyether polycarbonate diol units represent 30-70%, are prepared by reaction of cyclic esters, glycolide or lactide with polycarbonate or polyethercarbonate diols at 100-180° for 2-10 h. Thus, liquid diethylene glycol-dimethyl carbonate-ε-caprolactone copolymer (I) had glass transition temperature (Tg) -50°. The butanediol-I-MDI

thermoplastic elastomer (NCO index 1.03) had Tg -32.7, gas oil absorption 2.8%, and tensile strength retention (120°) 74%.

IT 209729-42-0P, 1,4-Butanediol-dimethyl carbonate-ε-caprolactone block copolymer 209729-43-1P, Dimethyl carbonate-1,6-hexanediol-ε-caprolactone block copolymer 209729-48-6P, Dimethyl carbonate-ε-caprolactone-1,6-hexanediol-norbornene dimethanol block copolymer (polycarbonate copolyester diols preparation and use for polyurethane elastomers having heat and oil resistance and good mech. properties)

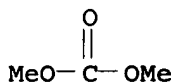
RN 209729-42-0 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol and 2-oxepanone, block (9CI) (CA INDEX NAME)

CM 1

CRN 616-38-6

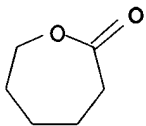
CMF C3 H6 O3



CM 2

CRN 502-44-3

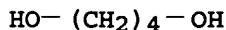
CMF C6 H10 O2



CM 3

CRN 110-63-4

CMF C4 H10 O2



RN 209729-43-1 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and 2-oxepanone, block (9CI) (CA INDEX NAME)

CM 1

CRN 629-11-8

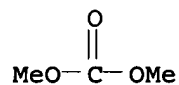
CMF C6 H14 O2



CM 2

CRN 616-38-6

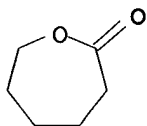
CMF C3 H6 O3



CM 3

CRN 502-44-3

CMF C6 H10 O2



RN 209729-48-6 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with bicyclo[2.2.1]hept-5-ene-2,3-dimethanol, 1,6-hexanediol and 2-oxepanone, block (9CI)  
(CA INDEX NAME)

CM 1

CRN 629-11-8

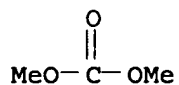
CMF C6 H14 O2



CM 2

CRN 616-38-6

CMF C3 H6 O3

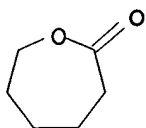


CM 3

CRN 502-44-3



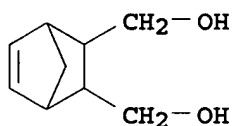
CMF C6 H10 O2



CM 4

CRN 85-39-2

CMF C9 H14 O2



IT 209729-49-7P, 1,4-Butanediol-diethylene glycol-dimethyl carbonate-ε-caprolactone-MDI block copolymer  
 209729-50-0P, 1,4-Butanediol-dimethyl carbonate-ε-caprolactone-MDI block copolymer 209729-51-1P,  
 1,4-Butanediol-dimethyl carbonate-1,6-hexanediol-ε-caprolactone-MDI block copolymer 209729-52-2P,  
 1,4-Butanediol-diethylene glycol-dimethyl carbonate-ε-caprolactone-MDI-tripropylene glycol block copolymer  
 209729-53-3P, 1,4-Butanediol-diethylene glycol-dimethyl carbonate-MDI-δ-valerolactone block copolymer  
 (rubber; polycarbonate copolyester diols preparation and use for polyurethane elastomers having heat and oil resistance and good mech. properties)

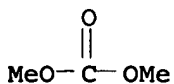
RN 209729-49-7 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol, 1,1'-methylenebis[4-isocyanatobenzene], 2-oxepanone and 2,2'-oxybis[ethanol], block (9CI) (CA INDEX NAME)

CM 1

CRN 616-38-6

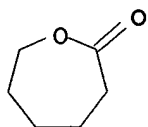
CMF C3 H6 O3



CM 2

CRN 502-44-3

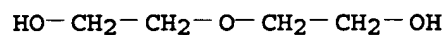
CMF C6 H10 O2



CM 3

CRN 111-46-6

CMF C4 H10 O3



CM 4

CRN 110-63-4

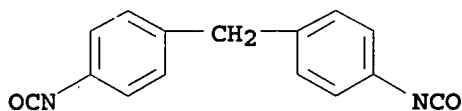
CMF C4 H10 O2



CM 5

CRN 101-68-8

CMF C15 H10 N2 O2



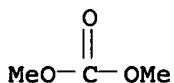
RN 209729-50-0 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol,  
1,1'-methylenebis[4-isocyanatobenzene] and 2-oxepanone, block  
(9CI) (CA INDEX NAME)

CM 1

CRN 616-38-6

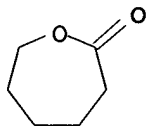
CMF C3 H6 O3



CM 2

CRN 502-44-3

CMF C6 H10 O2



CM 3

CRN 110-63-4

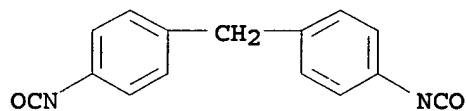
CMF C4 H10 O2

HO-(CH<sub>2</sub>)<sub>4</sub>-OH

CM 4

CRN 101-68-8

CMF C15 H10 N2 O2



RN 209729-51-1 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol,  
1,6-hexanediol, 1,1'-methylenebis[4-isocyanatobenzene] and  
2-oxepanone, block (9CI) (CA INDEX NAME)

CM 1

CRN 629-11-8

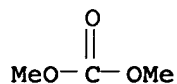
CMF C6 H14 O2

HO-(CH<sub>2</sub>)<sub>6</sub>-OH

CM 2

CRN 616-38-6

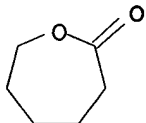
CMF C3 H6 O3



CM 3

CRN 502-44-3

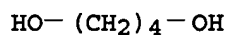
CMF C6 H10 O2



CM 4

CRN 110-63-4

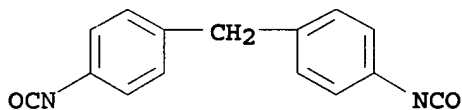
CMF C4 H10 O2



CM 5

CRN 101-68-8

CMF C15 H10 N2 O2



RN 209729-52-2 HCAPLUS

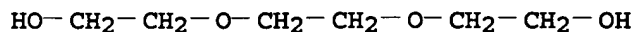
CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol, 1,1'-methylenebis[4-isocyanatobenzene], [(1-methyl-1,2-ethanediyl)bis(oxy)]bis[propanol], 2-oxepanone and 2,2'-oxybis[ethanol], block (9CI) (CA INDEX NAME)

CM 1

CRN 24800-44-0

CMF C9 H20 O4

CCI IDS

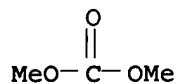


3 ( D1-Me )

CM 2

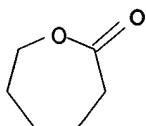
CRN 616-38-6

CMF C3 H6 O3



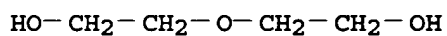
CM 3

CRN 502-44-3  
CMF C6 H10 O2



CM 4

CRN 111-46-6  
CMF C4 H10 O3



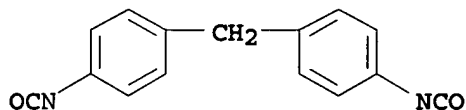
CM 5

CRN 110-63-4  
CMF C4 H10 O2



CM 6

CRN 101-68-8  
CMF C15 H10 N2 O2

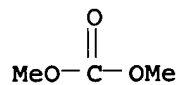


RN 209729-53-3 HCAPLUS  
CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol, 1,1'-methylenebis[4-isocyanatobenzene], 2,2'-oxybis[ethanol] and tetrahydro-2H-pyran-2-one, block (9CI) (CA INDEX NAME)

CM 1

CRN 616-38-6

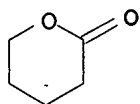
CMF C3 H6 O3



CM 2

CRN 542-28-9

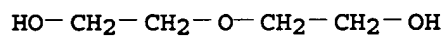
CMF C5 H8 O2



CM 3

CRN 111-46-6

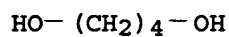
CMF C4 H10 O3



CM 4

CRN 110-63-4

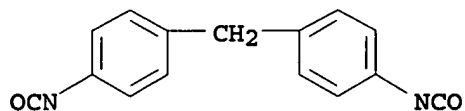
CMF C4 H10 O2



CM 5

CRN 101-68-8

CMF C15 H10 N2 O2



IC ICM C08G063-64

ICS C08G018-44

CC 35-5 (Chemistry of Synthetic High Polymers)

- Section cross-reference(s): 38, 39
- IT 209729-41-9P, Diethylene glycol-dimethyl carbonate-ε-caprolactone block copolymer 209729-42-0P, 1,4-Butanediol-dimethyl carbonate-ε-caprolactone block copolymer 209729-43-1P, Dimethyl carbonate-1,6-hexanediol-ε-caprolactone block copolymer 209729-44-2P, Diethylene glycol-dimethyl carbonate-ε-caprolactone-tripropylene glycol block copolymer 209729-45-3P, Diethylene glycol-dimethyl carbonate-δ-valerolactone block copolymer 209729-46-4P, Diethylene glycol-dimethyl carbonate-L-lactide block copolymer 209729-48-6P, Dimethyl carbonate-ε-caprolactone-1,6-hexanediol-norbornene dimethanol block copolymer (polycarbonate copolyester diols preparation and use for polyurethane elastomers having heat and oil resistance and good mech. properties)
- IT 209729-49-7P, 1,4-Butanediol-diethylene glycol-dimethyl carbonate-ε-caprolactone-MDI block copolymer 209729-50-0P, 1,4-Butanediol-dimethyl carbonate-ε-caprolactone-MDI block copolymer 209729-51-1P, 1,4-Butanediol-dimethyl carbonate-1,6-hexanediol-ε-caprolactone-MDI block copolymer 209729-52-2P, 1,4-Butanediol-diethylene glycol-dimethyl carbonate-ε-caprolactone-MDI-tripropylene glycol block copolymer 209729-53-3P, 1,4-Butanediol-diethylene glycol-dimethyl carbonate-MDI-δ-valerolactone block copolymer (rubber; polycarbonate copolyester diols preparation and use for polyurethane elastomers having heat and oil resistance and good mech. properties)

L54 ANSWER 43 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:657026 HCAPLUS

DOCUMENT NUMBER: 127:307811

TITLE: Polycarbonate-polyether polyols and their manufacture and use

INVENTOR(S): Greco, Alberto

PATENT ASSIGNEE(S): Enichem S.P.A., Italy

SOURCE: Eur. Pat. Appl., 16 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 798328	A2	19971001	EP 1997-103962	1997 0310
EP 798328	A3	19980121		
R: DE, FR, GB				
US 5847069	A	19981208	US 1997-818899	1997 0317
JP 10007788	A2	19980113	JP 1997-78538	1997 0328

PRIORITY APPLN. INFO.:

IT 1996-MI614

A

1996  
0328

&lt;--

AB A process is described for the preparation of polycarbonate-polyoxyalkylene polyols characterized in that di-Me carbonate (DMC) and one or more polyoxyalkylene diols are reacted at a ratio DMC/polyoxyalkylene diols of between 0.5 and 1.35, at a temperature of between 130° and 185°C and in the presence of a catalyst consisting of an oxide, a carbonate or an alcoholate of a metal of the first or second Periodic group or a salt or organometallic compound of a metal belonging to the third or fourth or fifth Periodic group at a concentration of between 0.0001 and 0.01%. The polymers exhibit mol. weight 500-5000, color <200 APHA, and OH functionality >99% with respect to the theor. value and are useful for polyurethanes. Thus, 2200 g diethylene glycol was polymerized with 2350 g DMC in the presence of CaO at 155° and atmospheric pressure and at 170-173° and 1 mmHg while a DMC-MeOH azeotrope was removed by distillation to give a polymer with OH number 56.2 mg KOH/g and color 20-30 APHA.

IT 196871-47-3P 197247-09-9P 197247-14-6P

(manufacture of polycarbonate-polyoxyalkylene polyols for polyurethanes)

RN 196871-47-3 HCAPLUS

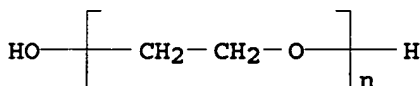
CN Carbonic acid, dimethyl ester, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) and 2,2'-oxybis[ethanol], block (9CI) (CA INDEX NAME)

CM 1

CRN 25322-68-3

CMF (C2 H4 O)<sub>n</sub> H2 O

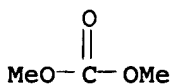
CCI PMS



CM 2

CRN 616-38-6

CMF C3 H6 O3

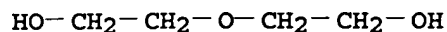


CM 3

CRN 111-46-6

CMF C4 H10 O3

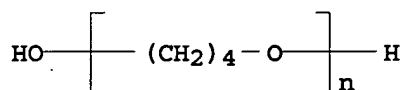




RN 197247-09-9 HCAPLUS  
 CN Carbonic acid, dimethyl ester, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,4-butanediyl) and 2,2'-oxybis[ethanol], block (9CI) (CA INDEX NAME)

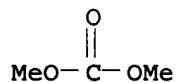
CM 1

CRN 25190-06-1  
 CMF (C4 H8 O)<sub>n</sub> H2 O  
 CCI PMS



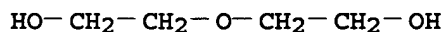
CM 2

CRN 616-38-6  
 CMF C3 H6 O3



CM 3

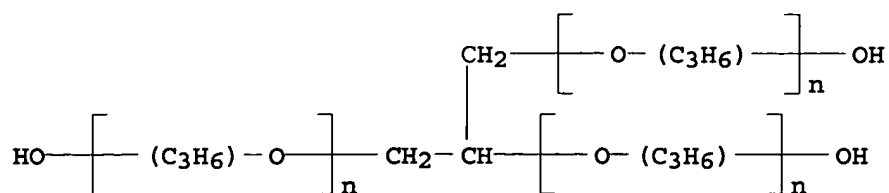
CRN 111-46-6  
 CMF C4 H10 O3



RN 197247-14-6 HCAPLUS  
 CN Carbonic acid, dimethyl ester, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)], [(1-methyl-1,2-ethanediyl)bis(oxy)]bis[propanol] and  $\alpha,\alpha',\alpha''$ -1,2,3-propanetriyltris[ $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)]]], block (9CI) (CA INDEX NAME)

CM 1

CRN 25791-96-2  
 CMF (C3 H6 O)<sub>n</sub> (C3 H6 O)<sub>n</sub> (C3 H6 O)<sub>n</sub> C3 H8 O3  
 CCI IDS, PMS

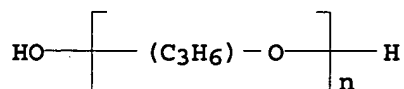


CM 2

CRN 25322-69-4

CMF (C3 H6 O)<sub>n</sub> H2 O

CCI IDS, PMS

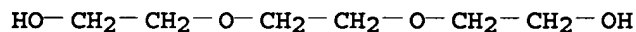


CM 3

CRN 24800-44-0

CMF C9 H20 O4

CCI IDS

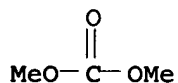


3 ( D1-Me )

CM 4

CRN 616-38-6

CMF C3 H6 O3



IT 197247-16-8P

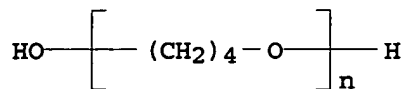
(thermoplastic elastomer; manufacture of polycarbonate-polyoxyalkylene polyols for polyurethanes)

RN 197247-16-8 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,4-butanediyl), 1,1'-methylenebis[4-isocyanatobenzene] and 2,2'-oxybis[ethanol], block (9CI) (CA INDEX NAME)

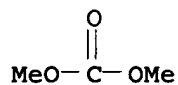
CM 1

CRN 25190-06-1  
 CMF (C4 H8 O)<sub>n</sub> H2 O  
 CCI PMS



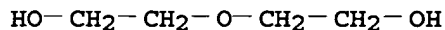
CM 2

CRN 616-38-6  
 CMF C3 H6 O3



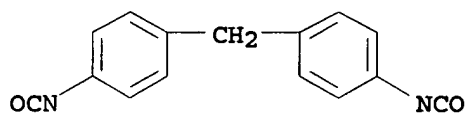
CM 3

CRN 111-46-6  
 CMF C4 H10 O3



CM 4

CRN 101-68-8  
 CMF C15 H10 N2 O2



IC ICM C08G064-30  
 ICS C08G064-18; C08G018-44  
 CC 35-5 (Chemistry of Synthetic High Polymers)  
 IT 29011-12-9P, Diethylene glycol-dimethyl carbonate copolymer, sru  
 196871-47-3P 197247-08-8P, Diethylene glycol-dimethyl  
 carbonate copolymer 197247-09-9P 197247-10-2P  
 197247-11-3P 197247-12-4P 197247-13-5P 197247-14-6P  
 197367-88-7P  
 (manufacture of polycarbonate-polyoxyalkylene polyols for  
 polyurethanes)  
 IT 197247-15-7P 197247-16-8P 197247-17-9P 197367-89-8P  
 (thermoplastic elastomer; manufacture of polycarbonate-  
 polyoxyalkylene polyols for polyurethanes)

L54 ANSWER 44 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1997:657025 HCAPLUS  
 DOCUMENT NUMBER: 127:293793  
 TITLE: Two-stage process for the preparation of  
 polycarbonate-polyether diols  
 INVENTOR(S): Greco, Alberto  
 PATENT ASSIGNEE(S): Enichem S.P.A., Italy  
 SOURCE: Eur. Pat. Appl., 14 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

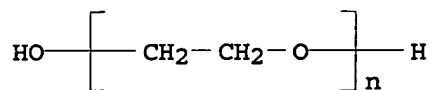
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 798327	A2	19971001	EP 1997-103961	1997 0310
EP 798327	A3	19980121	<--	
R: DE, FR, GB				
US 5795952	A	19980818	US 1997-818939	1997 0317
JP 10045678	A2	19980217	JP 1997-78417	1997 0328
PRIORITY APPLN. INFO.:			IT 1996-MI615	A 1996 0328

AB Polycarbonate-polyoxyalkylene diols with low color and accurately controlled mol. weight of 500-5000, are manufactured by polymerization of di-Me carbonate (I) with the polyoxyalkylene diols at 140-185° in the presence of a basic catalyst selected from the group consisting of an oxide, a hydroxide, a carbonate or an alcoholate of a metal belonging to the group of alkali or alkaline-earth metals and transesterification of the catalyst- and I-free bis(di-Me carbonates) of polyoxyalkylene polycarbonate diols with addnl. polyoxyalkylene diol in the presence of in the presence of a solvent and an 0.0001-0.001% organometallic catalyst selected from compds. of tin, lead, titanium, zirconium and antimony. The products are as additives in the field of polyurethane end-products, thermoelastomers, paints and adhesives.

IT 196871-47-3P  
 (two-stage preparation of polycarbonate-polyoxyalkylene diols)  
 RN 196871-47-3 HCAPLUS  
 CN Carbonic acid, dimethyl ester, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) and 2,2'-oxybis[ethanol], block (9CI) (CA INDEX NAME)

CM 1

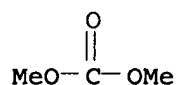
CRN 25322-68-3  
 CMF (C2 H4 O)<sub>n</sub> H2 O  
 CCI PMS



CM 2

CRN 616-38-6

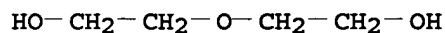
CMF C3 H6 O3



CM 3

CRN 111-46-6

CMF C4 H10 O3



IT 171926-77-5P 196871-48-4P 196871-49-5P  
 (two-stage preparation of polycarbonate-polyoxyalkylene diols from  
 di-Me carbonate)

RN 171926-77-5 HCAPLUS

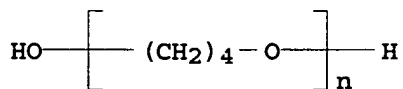
CN Carbonic acid, dimethyl ester, polymer with  $\alpha$ -hydro- $\omega$ -  
 hydroxypoly(oxy-1,4-butanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 25190-06-1

CMF (C4 H8 O)<sub>n</sub> H2 O

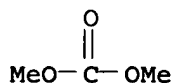
CCI PMS



CM 2

CRN 616-38-6

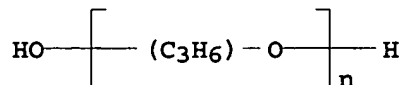
CMF C3 H6 O3



RN 196871-48-4 HCAPLUS  
 CN Carbonic acid, dimethyl ester, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 2,2'-oxybis[ethanol], block (9CI) (CA INDEX NAME)

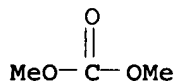
CM 1

CRN 25322-69-4  
 CMF (C3 H6 O)<sub>n</sub> H2 O  
 CCI IDS, PMS



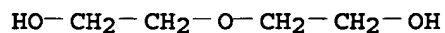
CM 2

CRN 616-38-6  
 CMF C3 H6 O3



CM 3

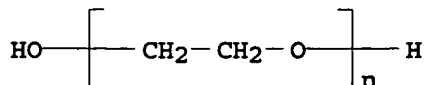
CRN 111-46-6  
 CMF C4 H10 O3



RN 196871-49-5 HCAPLUS  
 CN Carbonic acid, dimethyl ester, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy-1,2-ethanediyl] and oxybis[propanol] (9CI) (CA INDEX NAME)

CM 1

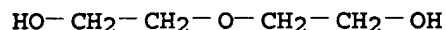
CRN 25322-68-3  
 CMF (C2 H4 O)<sub>n</sub> H2 O  
 CCI PMS



CM 2

CRN 25265-71-8

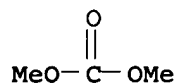
CMF C6 H14 O3  
CCI IDS



2 ( D1-Me )

CM 3

CRN 616-38-6  
CMF C3 H6 O3



IC ICM C08G064-30  
ICS C08G064-18; C08G018-44  
CC 35-5 (Chemistry of Synthetic High Polymers)  
IT 196871-47-3P  
(two-stage preparation of polycarbonate-polyoxyalkylene diols)  
IT 171926-77-5P 196871-48-4P 196871-49-5P  
(two-stage preparation of polycarbonate-polyoxyalkylene diols from di-Me carbonate)

L54 ANSWER 45 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 1997:168097 HCAPLUS  
DOCUMENT NUMBER: 126:164301  
TITLE: Water-soluble photosensitive resin composition  
useful in production of printing plate  
INVENTOR(S): Takanashi, Hiroshi; Kudo, Tomoya  
PATENT ASSIGNEE(S): Tokyo Ohka Kogyo Co Ltd, Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 11 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08328249	A2	19961213	JP 1995-157148	1995 0531

PRIORITY APPLN. INFO.: JP 1995-157148  
1995  
0531

AB The title composition contains (a) a water-soluble polymer, (b) a urethanized polycarbonate having 20-80 wt% hydrophilic group, (c) a hydrophobic polymer, (e) an unsatd. compound having radically

polymerizable ethylenic double bond, and (e) a photopolymer initiator. The polycarbonate may have (meth)acryloyl group added to  $\geq 1$  of the termini and the hydrophilic group may contain  $\text{CH}_2\text{CH}_2\text{O}$  as repeating unit with average mol. weight 100-100,000 which may have  $\text{CO}_2\text{M}$  group ( $\text{M} = \text{H}$ , alkali metal, amine, ammonium). The composition provides a high quality printing plates with high mech. strength, printing durability, and ink adhesion without influence of moisture conditions. Thus, a polycarbonate from polyethylene glycol, 1,6-hexanediol, and di-Me carbonate was reacted with hexamethylene diisocyanate to give an urethanized polycarbonate. A photosensitive resin composition was prepared by using the modified polycarbonate, poly(vinyl alc.), Superflex E 4500 (ether-type polyurethane emulsion), polyethylene glycol diacrylate, and benzyl di-Me ketal.

IT 186968-43-4P, Dimethyl carbonate-hexamethylene diisocyanate-1,6-hexanediol-polyethylene glycol copolymer (hydrophilic; water-soluble photosensitive polymer composition for printing plate)

RN 186968-43-4 HCAPLUS

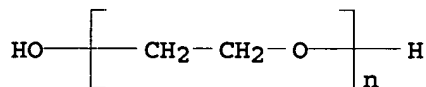
CN Carbonic acid, dimethyl ester, polymer with 1,6-diisocyanatohexane, 1,6-hexanediol and  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 25322-68-3

CMF  $(\text{C}_2 \text{ H}_4 \text{ O})_n \text{ H}_2 \text{ O}$

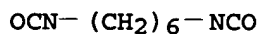
CCI PMS



CM 2

CRN 822-06-0

CMF  $\text{C}_8 \text{ H}_{12} \text{ N}_2 \text{ O}_2$



CM 3

CRN 629-11-8

CMF  $\text{C}_6 \text{ H}_{14} \text{ O}_2$

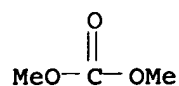


CM 4

CRN 616-38-6

CMF  $\text{C}_3 \text{ H}_6 \text{ O}_3$





IT 186968-44-5P, Dimethyl carbonate-dimethylolpropionic acid-hexamethylene diisocyanate-1,6-hexanediol-polyethylene glycol copolymer  
(water-soluble photosensitive polymer composition for printing plate)

RN 186968-44-5 HCAPLUS

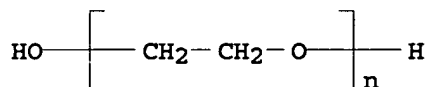
CN Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymer with 1,6-diisocyanatohexane, dimethyl carbonate, 1,6-hexanediol and  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) (9CI)  
(CA INDEX NAME)

CM 1

CRN 25322-68-3

CMF (C2 H4 O)<sub>n</sub> H2 O

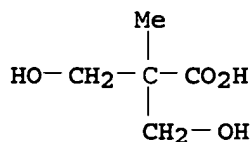
CCI PMS



CM 2

CRN 4767-03-7

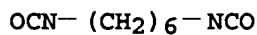
CMF C5 H10 O4



CM 3

CRN 822-06-0

CMF C8 H12 N2 O2



CM 4

CRN 629-11-8

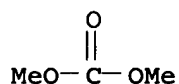
CMF C6 H14 O2



CM 5

CRN 616-38-6

CMF C3 H6 O3



IT 186968-45-6P, Dimethyl carbonate-hexamethylene diisocyanate-1,6-hexanediol-2-hydroxyethyl acrylate-polyethylene glycol-polyethylene glycol diacrylate copolymer (water-soluble photosensitive polymer composition for printing plate)

RN 186968-45-6 HCAPLUS

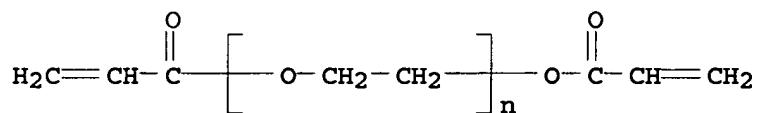
CN 2-Propenoic acid, 2-hydroxyethyl ester, polymer with 1,6-diisocyanatohexane, dimethyl carbonate, 1,6-hexanediol,  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,2-ethanediyl) and  $\alpha$ -(1-oxo-2-propenyl)- $\omega$ -[(1-oxo-2-propenyl)oxy]poly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 26570-48-9

CMF (C2 H4 O)<sub>n</sub> C6 H6 O3

CCI PMS

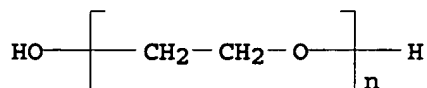


CM 2

CRN 25322-68-3

CMF (C2 H4 O)<sub>n</sub> H2 O

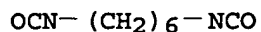
CCI PMS



CM 3

CRN 822-06-0

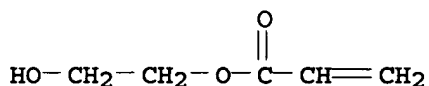
CMF C8 H12 N2 O2



CM 4

CRN 818-61-1

CMF C5 H8 O3



CM 5

CRN 629-11-8

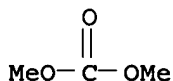
CMF C6 H14 O2



CM 6

CRN 616-38-6

CMF C3 H6 O3



IC ICM G03F007-027

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 38

IT 186968-43-4P, Dimethyl carbonate-hexamethylene diisocyanate-1,6-hexanediol-polyethylene glycol copolymer (hydrophilic; water-soluble photosensitive polymer composition for printing plate)

IT 57636-10-9P, Polyethylene glycol diacrylate homopolymer  
 75663-31-9P, N-Methylolacrylamide-vinyl alcohol copolymer  
 186968-44-5P, Dimethyl carbonate-dimethylolpropionic acid-hexamethylene diisocyanate-1,6-hexanediol-polyethylene glycol copolymer (water-soluble photosensitive polymer composition for printing plate)

IT 186968-45-6P, Dimethyl carbonate-hexamethylene diisocyanate-1,6-hexanediol-2-hydroxyethyl acrylate-polyethylene glycol-polyethylene glycol diacrylate copolymer (water-soluble photosensitive polymer composition for printing plate)

L54 ANSWER 46 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:21148 HCAPLUS

DOCUMENT NUMBER: 126:48442

TITLE: Chipping-resistant polyurethane-based intermediate coating compositions for automobiles  
 INVENTOR(S): Sumitomo, Yasuo; Nakayama, Fumitaka  
 PATENT ASSIGNEE(S): Shinto Paint Co Ltd, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08269394	A2	19961015	JP 1995-96317	1995 0328

PRIORITY APPLN. INFO.: JP 1995-96317  
 1995  
 0328

AB The compns. contain 0-90:10-100 mixts. of (A) polyurethanes with weight-average mol. weight (Mw) 2000-20,000 and (B) polycarbonate diols with Mw 500-4000, (C) blocked polyisocyanates, and (D) microgels with particle size 0.2-1.5  $\mu$ m. Thus, applying a composition containing hexamethylene diisocyanate-Placel 305 copolymer (Mw 8000) 50, di-Me carbonate-1,6-hexanediol-polytetramethylene glycol copolymer (Mw 1900) 50, Burnock DB 980K 66, Grandoll PP 2000S 2.6, xylene 72.5, TiO<sub>2</sub> 25, and carbon black 0.2 part on a steel sheet and then applying a polyester-melamine coating gave a test piece showing good chipping and water resistance.

IT 184700-18-3P 184700-19-4P 184700-20-7P  
 (chipping-resistant polyurethane-based intermediate coatings for automobiles)

RN 184700-18-3 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with Burnock DB 980K, 1,6-hexanediol and  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,4-butanediyl), block (9CI) (CA INDEX NAME)

CM 1

CRN 175834-23-8

CMF Unspecified

CCI PMS, MAN

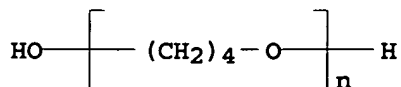
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 25190-06-1

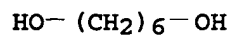
CMF (C<sub>4</sub> H<sub>8</sub> O)<sub>n</sub> H<sub>2</sub> O

CCI PMS



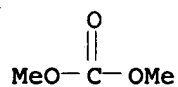
CM 3

CRN 629-11-8  
CMF C6 H14 O2



CM 4

CRN 616-38-6  
CMF C3 H6 O3



RN 184700-19-4 HCAPLUS  
CN Carbonic acid, dimethyl ester, polymer with Burnock DB 980K,  
1,6-hexanediol and  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-  
1,2-ethanediyl)], block (9CI) (CA INDEX NAME)

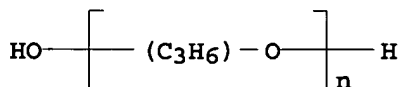
CM 1

CRN 175834-23-8  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 25322-69-4  
CMF  $(\text{C}_3\text{H}_6\text{O})_n\text{H}_2\text{O}$   
CCI IDS, PMS



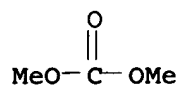
CM 3

CRN 629-11-8  
CMF C6 H14 O2



CM 4

CRN 616-38-6  
CMF C3 H6 O3



RN 184700-20-7 HCAPLUS  
CN Carbonic acid, dimethyl ester, polymer with Duranate E 402B80T,  
1,6-hexanediol and  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,4-  
butanediyl), block (9CI) (CA INDEX NAME)

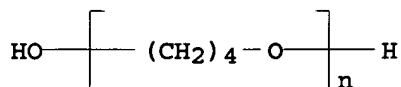
CM 1

CRN 182761-20-2  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

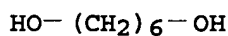
CM 2

CRN 25190-06-1  
CMF (C4 H8 O)<sub>n</sub> H2 O  
CCI PMS



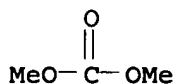
CM 3

CRN 629-11-8  
CMF C6 H14 O2



CM 4

CRN 616-38-6  
CMF C3 H6 O3



IC ICM C09D175-04  
ICS C09D175-04; C09D005-00; C09D005-04  
CC 42-10 (Coatings, Inks, and Related Products)

IT 39323-37-0P, Isophorone diisocyanate-polypropylene glycol  
copolymer 104105-06-8P 184700-18-3P  
184700-19-4P 184700-20-7P  
(chipping-resistant polyurethane-based intermediate coatings  
for automobiles)

L54 ANSWER 47 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:4549 HCAPLUS

DOCUMENT NUMBER: 126:33188

TITLE: Chipping-resistant polycarbonate-polyester-  
polyurethane intermediate coating compositions  
for automobiles

INVENTOR(S): Sumitomo, Yasuo; Nakayama, Fumitaka

PATENT ASSIGNEE(S): Shinto Paint Co Ltd, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 08269396	A2	19961015	JP 1995-96319	1995 0328

PRIORITY APPLN. INFO.:

<--  
JP 1995-96319  
1995  
0328

AB The compns. contain 0-90:10-100 mixts. of (A) polyester polyols  
with OH value 50-400 (mg KOH/g) and (B) polycarbonate diols with  
weight-average mol. weight (Mw) 500-4000, (C) blocked polyisocyanates, and  
(D) microgels with particle size 0.2-1.5  $\mu$ m. Thus, applying a  
composition containing adipic acid-neopentyl glycol-phthalic  
anhydride-trimethylolpropane copolymer (OH value 170) 50, di-Me  
carbonate-1,6-hexanediol-polytetramethylene glycol copolymer 50,  
Burnock DB 980K 80, Grandoll PP 2000S 2.8, xylene 76.2, TiO<sub>2</sub> 25,  
and carbon black 0.2 part on a steel sheet and then applying a  
polyester-melamine coating gave a test piece showing good chipping  
and water resistance.

IT 184706-26-1P 184706-27-2P 184706-28-3P  
(chipping-resistant polycarbonate-polyester-polyurethane  
intermediate coatings containing microgel particles for  
automobiles)

RN 184706-26-1 HCAPLUS

CN Hexanedioic acid, polymer with Burnock DB 980K, dimethyl  
carbonate, 2,2-dimethyl-1,3-propanediol, 2-ethyl-2-(hydroxymethyl)-  
1,3-propanediol, 1,6-hexanediol,  $\alpha$ -hydro- $\omega$ -  
hydroxypoly(oxy-1,4-butanediyl) and 1,3-isobenzofurandione (9CI)  
(CA INDEX NAME)

CM 1

CRN 175834-23-8

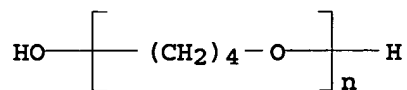
CMF Unspecified

CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

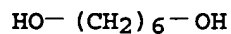
CM 2

CRN 25190-06-1  
CMF (C4 H8 O)<sub>n</sub> H2 O  
CCI PMS



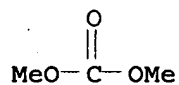
CM 3

CRN 629-11-8  
CMF C6 H14 O2



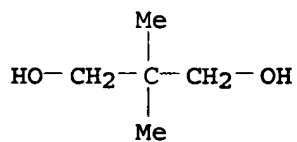
CM 4

CRN 616-38-6  
CMF C3 H6 O3



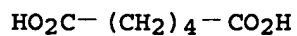
CM 5

CRN 126-30-7  
CMF C5 H12 O2



CM 6

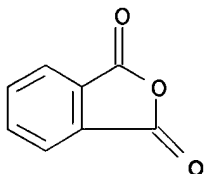
CRN 124-04-9  
CMF C6 H10 O4





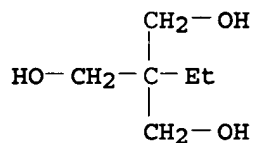
CM 7

CRN 85-44-9  
CMF C8 H4 O3



CM 8

CRN 77-99-6  
CMF C6 H14 O3



RN 184706-27-2 HCAPLUS  
CN Hexanedioic acid, polymer with Burnock DB 980K, dimethyl carbonate, 2,2-dimethyl-1,3-propanediol, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 1,6-hexanediol,  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 1,3-isobenzofurandione (9CI) (CA INDEX NAME)

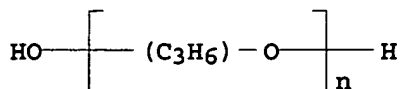
CM 1

CRN 175834-23-8  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 25322-69-4  
CMF (C3 H6 O)<sub>n</sub> H2 O  
CCI IDS, PMS



CM 3

CRN 629-11-8

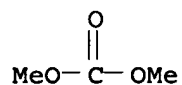
CMF C6 H14 O2



CM 4

CRN 616-38-6

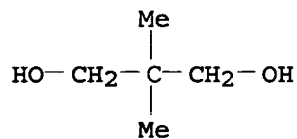
CMF C3 H6 O3



CM 5

CRN 126-30-7

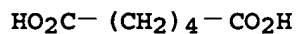
CMF C5 H12 O2



CM 6

CRN 124-04-9

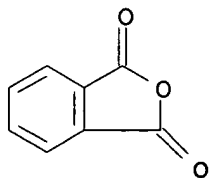
CMF C6 H10 O4



CM 7

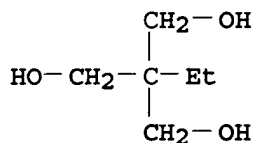
CRN 85-44-9

CMF C8 H4 O3



CM 8

CRN 77-99-6  
CMF C6 H14 O3



RN 184706-28-3 HCAPLUS  
CN Hexanedioic acid, polymer with dimethyl carbonate,  
2,2-dimethyl-1,3-propanediol, Duranate E 402B80T,  
2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 1,6-hexanediol,  
 $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,4-butanediyl) and  
1,3-isobenzofurandione (9CI) (CA INDEX NAME)

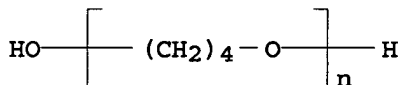
CM 1

CRN 182761-20-2  
CMF Unspecified  
CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

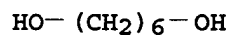
CM 2

CRN 25190-06-1  
CMF (C4 H8 O)<sub>n</sub> H2 O  
CCI PMS



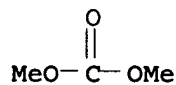
CM 3

CRN 629-11-8  
CMF C6 H14 O2



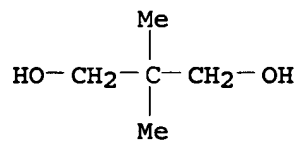
CM 4

CRN 616-38-6  
CMF C3 H6 O3



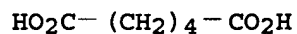
CM 5

CRN 126-30-7  
 CMF C5 H12 O2



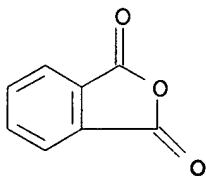
CM 6

CRN 124-04-9  
 CMF C6 H10 O4



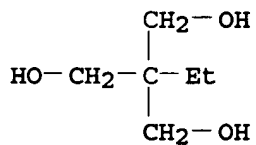
CM 7

CRN 85-44-9  
 CMF C8 H4 O3



CM 8

CRN 77-99-6  
 CMF C6 H14 O3



IC ICM C09D175-04

ICS C09D175-04; C09D005-00

CC 42-10 (Coatings, Inks, and Related Products)

IT 184706-26-1P 184706-27-2P 184706-28-3P

(chipping-resistant polycarbonate-polyester-polyurethane  
 intermediate coatings containing microgel particles for  
 automobiles)

L54 ANSWER 48 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:4548 HCAPLUS

DOCUMENT NUMBER: 126:33187

TITLE: Chipping-resistant polycarbonate-polyester-polyurethane intermediate coating compositions for automobiles

INVENTOR(S): Sumitomo, Yasuo; Nakayama, Fumitaka

PATENT ASSIGNEE(S): Shinto Paint Co Ltd, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08269395	A2	19961015	JP 1995-96318	1995 0328

PRIORITY APPLN. INFO.:

<--  
JP 1995-963181995  
0328

AB The compns. contain 0-90:10-100 mixts. of (A) polyester polyols with OH value 50-400 (mg KOH/g) and (B) polycarbonate diols with weight-average mol. weight (Mw) 500-4000 and (C) blocked polyisocyanates. Thus, applying a composition containing adipic acid-neopentyl glycol-phthalic anhydride-trimethylolpropane copolymer (OH value 170) 50, di-Me carbonate-1,6-hexanediol-polytetramethylene glycol copolymer (Mw 1900) 50, Burnock DB 980K 80, xylene 74.3, TiO<sub>2</sub> 25, and carbon black 0.2 part on a steel sheet and then applying a polyester-melamine coating gave a test piece showing good chipping and water resistance.

IT 184706-26-1P, Adipic acid-Burnock DB 980K-dimethyl carbonate-1,6-hexanediol-neopentyl glycol-phthalic anhydride-polytetramethylene glycol-trimethylolpropane copolymer 184706-27-2P 184706-28-3P (chipping-resistant polycarbonate-polyester-polyurethane intermediate coatings for automobiles)

RN 184706-26-1 HCAPLUS

CN Hexanedioic acid, polymer with Burnock DB 980K, dimethyl carbonate, 2,2-dimethyl-1,3-propanediol, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 1,6-hexanediol,  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,4-butanediyl) and 1,3-isobenzofurandione (9CI) (CA INDEX NAME)

CM 1

CRN 175834-23-8

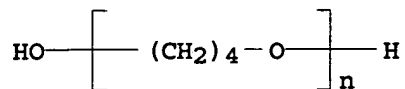
CMF Unspecified

CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

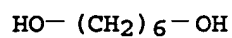
CM 2

CRN 25190-06-1  
 CMF (C4 H8 O)<sub>n</sub> H2 O  
 CCI PMS



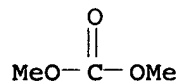
CM 3

CRN 629-11-8  
 CMF C6 H14 O2



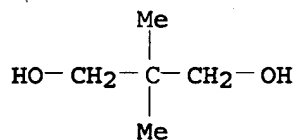
CM 4

CRN 616-38-6  
 CMF C3 H6 O3



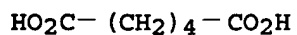
CM 5

CRN 126-30-7  
 CMF C5 H12 O2



CM 6

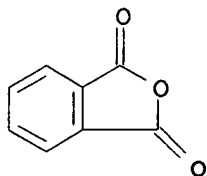
CRN 124-04-9  
 CMF C6 H10 O4



CM 7

CRN 85-44-9

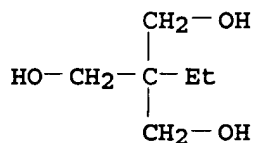
CMF C8 H4 O3



CM 8

CRN 77-99-6

CMF C6 H14 O3



RN 184706-27-2 HCAPLUS

CN Hexanedioic acid, polymer with Burnock DB 980K, dimethyl carbonate, 2,2-dimethyl-1,3-propanediol, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 1,6-hexanediol,  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)] and 1,3-isobenzofurandione (9CI) (CA INDEX NAME)

CM 1

CRN 175834-23-8

CMF Unspecified

CCI PMS, MAN

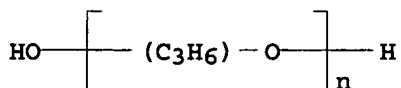
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 25322-69-4

CMF (C3 H6 O)<sub>n</sub> H2 O

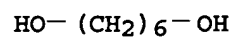
CCI IDS, PMS



CM 3

CRN 629-11-8

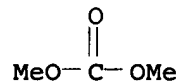
CMF C6 H14 O2



CM 4

CRN 616-38-6

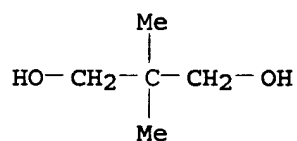
CMF C3 H6 O3



CM 5

CRN 126-30-7

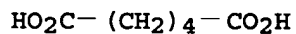
CMF C5 H12 O2



CM 6

CRN 124-04-9

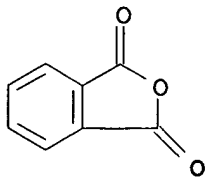
CMF C6 H10 O4



CM 7

CRN 85-44-9

CMF C8 H4 O3

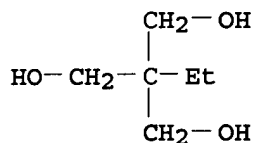


CM 8

CRN 77-99-6

CMF C6 H14 O3





RN 184706-28-3 HCAPLUS

CN Hexanedioic acid, polymer with dimethyl carbonate,  
 2,2-dimethyl-1,3-propanediol, Duranate E 402B80T,  
 2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 1,6-hexanediol,  
 $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,4-butanediyl) and  
 1,3-isobenzofurandione (9CI) (CA INDEX NAME)

CM 1

CRN 182761-20-2

CMF Unspecified

CCI PMS, MAN

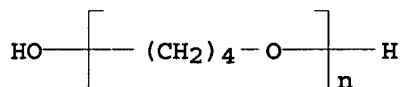
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 25190-06-1

CMF (C4 H8 O)<sub>n</sub> H2 O

CCI PMS



CM 3

CRN 629-11-8

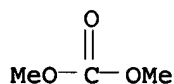
CMF C6 H14 O2



CM 4

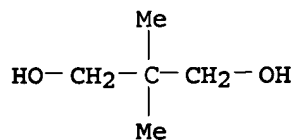
CRN 616-38-6

CMF C3 H6 O3



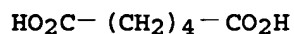
CM 5

CRN 126-30-7  
CMF C5 H12 O2



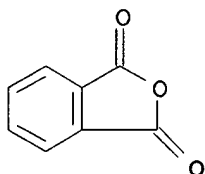
CM 6

CRN 124-04-9  
CMF C6 H10 O4



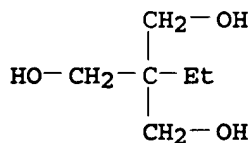
CM 7

CRN 85-44-9  
CMF C8 H4 O3



CM 8

CRN 77-99-6  
CMF C6 H14 O3



IC ICM C09D175-04  
ICS C09D175-04; C09D005-00  
CC 42-10 (Coatings, Inks, and Related Products)  
IT **184706-26-1P**, Adipic acid-Burnock DB 980K-dimethyl  
carbonate-1,6-hexanediol-neopentyl glycol-phthalic  
anhydride-polytetramethylene glycol-trimethylolpropane copolymer  
**184706-27-2P 184706-28-3P**  
(chipping-resistant polycarbonate-polyester-polyurethane  
intermediate coatings for automobiles)

L54 ANSWER 49 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1997:4547 HCAPLUS  
 DOCUMENT NUMBER: 126:33186  
 TITLE: Chipping-resistant polyurethane-based  
 intermediate coating compositions for  
 automobiles  
 INVENTOR(S): Sumitomo, Yasuo; Nakayama, Fumitaka  
 PATENT ASSIGNEE(S): Shinto Paint Co Ltd, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08269393	A2	19961015	JP 1995-96316	1995 0328

PRIORITY APPLN. INFO.: <--  
 JP 1995-96316  
 1995  
 0328

AB The compns. contain 0-90:10-100 mixts. of (A) polyurethanes with weight-average mol. weight (Mw) 2000-20,000 and (B) polycarbonate diols with Mw 500-4000 and (C) blocked polyisocyanates. Thus, applying a composition containing hexamethylene diisocyanate-Placel 305 copolymer (Mw 8000) 50, di-Me carbonate-1,6-hexanediol-polytetramethylene glycol copolymer (Mw 1900) 50, Burnock DB 980K 66, xylene 70.8, TiO<sub>2</sub> 25, and carbon black 0.2 part on a steel sheet and then applying a polyester-melamine coating gave a test piece showing good chipping and water resistance.

IT 184700-18-3P 184700-19-4P 184700-20-7P  
 (chipping-resistant polyurethane-based intermediate coatings for automobiles)

RN 184700-18-3 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with Burnock DB 980K, 1,6-hexanediol and  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,4-butanediyl), block (9CI) (CA INDEX NAME)

CM 1

CRN 175834-23-8

CMF Unspecified

CCI PMS, MAN

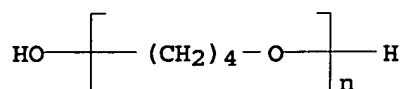
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 25190-06-1

CMF (C<sub>4</sub> H<sub>8</sub> O)<sub>n</sub> H<sub>2</sub> O

CCI PMS



CM 3

CRN 629-11-8

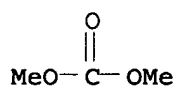
CMF C6 H14 O2



CM 4

CRN 616-38-6

CMF C3 H6 O3



RN 184700-19-4 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with Burnock DB 980K,  
1,6-hexanediol and  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-  
1,2-ethanediyl)], block (9CI) (CA INDEX NAME)

CM 1

CRN 175834-23-8

CMF Unspecified

CCI PMS, MAN

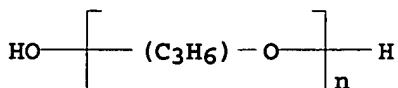
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 25322-69-4

CMF (C3 H6 O)<sub>n</sub> H2 O

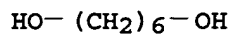
CCI IDS, PMS



CM 3

CRN 629-11-8

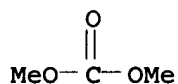
CMF C6 H14 O2



CM 4

CRN 616-38-6

CMF C3 H6 O3



RN 184700-20-7 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with Duranate E 402B80T, 1,6-hexanediol and  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,4-butanediyl), block (9CI) (CA INDEX NAME)

CM 1

CRN 182761-20-2

CMF Unspecified

CCI PMS, MAN

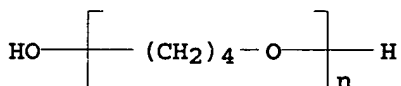
\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 2

CRN 25190-06-1

CMF (C4 H8 O)<sub>n</sub> H2 O

CCI PMS



CM 3

CRN 629-11-8

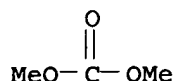
CMF C6 H14 O2



CM 4

CRN 616-38-6

CMF C3 H6 O3



IC ICM C09D175-04  
 ICS C09D175-04; C09D005-00  
 CC 42-10 (Coatings, Inks, and Related Products)  
 IT 39323-37-0P, Isophorone diisocyanate-polypropylene glycol  
 copolymer 104105-06-8P 184700-18-3P  
 184700-19-4P 184700-20-7P  
 (chipping-resistant polyurethane-based intermediate coatings  
 for automobiles)

L54 ANSWER 50 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1996:649570 HCAPLUS  
 DOCUMENT NUMBER: 125:278771  
 TITLE: Aqueous coating compositions and coating  
 method  
 INVENTOR(S): Ogawa, Hideaki; Nishi, Tadahiko; Tanabe,  
 Hisanori; Takeuchi, Kunihiro  
 PATENT ASSIGNEE(S): Nippon Paint Co Ltd, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 15 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08209059	A2	19960813	JP 1995-15895	1995 0202

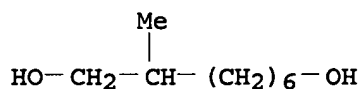
PRIORITY APPLN. INFO.: JP 1995-15895  
 1995  
 0202

AB An aqueous coating composition with improved workability comprises (1) acrylic and/or polyester resins having number-average mol. weight 1000-50,000, acid value 10-100, and hydroxy value 20-300, (2) hydroxy-terminated polycarbonates with number-average mol. weight 1,000-10,000, (3) curing agents, and (4) urethane or melamine resin particles with particle size 0.01-1.0  $\mu\text{m}$ . A two-coat-one-bake coating process is claimed, in which the above composition is applied on a object as base coating and then covered with a clear coat and baked. A coating composition of this invention contained 50 parts of a polyester resin of dimethylethanolamine neutralized ethylene glycol-trimethylolpropane-phthalic anhydride-trimellitic anhydride copolymer with number-average mol. weight 2000, acid value 50, and hydroxy value 60, 13 parts of a polycarbonate resin (number-average mol. weight 2350) prepared from di-Me carbonate, 3-methyl-1,5-pentanediol, and trimethylolpropane dimer, 20 parts of Cymel 303 (melamine resin), and 17 parts of urethane resin particles (particle size 0.02) made from dimethylolpropionic acid, isophorone diisocyanate, and polyhexamethylene carbonate diol, and other minor components.

IT 182679-56-7P 182679-58-9P  
 (aqueous coating compns. and coating method)  
 RN 182679-56-7 HCAPLUS  
 CN Carbonic acid, dimethyl ester, polymer with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol dimer, 2-methyl-1,8-octanediol and 1,9-nonanediol (9CI) (CA INDEX NAME)

CM 1

CRN 109359-36-6  
 CMF C9 H20 O2



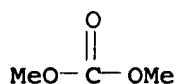
CM 2

CRN 3937-56-2  
 CMF C9 H20 O2



CM 3

CRN 616-38-6  
 CMF C3 H6 O3

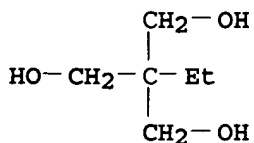


CM 4

CRN 168261-07-2  
 CMF (C6 H14 O3)2  
 CCI PMS

CM 5

CRN 77-99-6  
 CMF C6 H14 O3

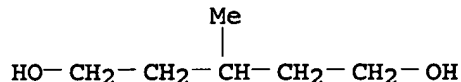


RN 182679-58-9 HCAPLUS  
 CN Carbonic acid, dimethyl ester, polymer with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 1,6-hexanediol and 3-methyl-1,5-pentanediol (9CI) (CA INDEX NAME)

CM 1

CRN 4457-71-0

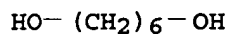
CMF C6 H14 O2



CM 2

CRN 629-11-8

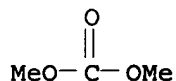
CMF C6 H14 O2



CM 3

CRN 616-38-6

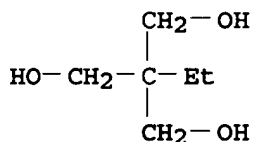
CMF C3 H6 O3



CM 4

CRN 77-99-6

CMF C6 H14 O3



IC ICM C09D133-06  
 ICS B05D001-36; B05D007-14; C09D161-28; C09D167-00; C09D167-08;  
 C09D169-00; C09D175-04

CC 42-10 (Coatings, Inks, and Related Products)

IT 77-99-6DP, alkyd resins 85-44-9DP, 1,3-Isobenzofurandione, alkyd resins 108-01-0DP, salts of alkyd resins 126-30-7DP, Neopentyl glycol, alkyd resins 552-30-7DP, alkyd resins 3089-11-0DP, reaction products with polypropylene triol 25322-69-4DP, triol,



reaction products with melamines 132229-71-1P 138720-98-6P  
 182679-54-5P 182679-55-6P 182679-56-7P 182679-57-8P  
 182679-58-9P 182679-59-0P 182679-61-4P 182679-63-6P  
 182679-65-8P

(aqueous coating compns. and coating method)

L54 ANSWER 51 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:987098 HCAPLUS

DOCUMENT NUMBER: 124:30541

TITLE: Poly(alkylene carbonate)s by the carbonate interchange reaction of aliphatic diols with dimethyl carbonate: synthesis and characterization

AUTHOR(S): Pokharkar, Varsha; Sivaram, S.

CORPORATE SOURCE: Div. Polymer Chem., National Chem. Lab., Pune, 411 008, India

SOURCE: Polymer (1995), 36(25), 4851-4

CODEN: POLMAG; ISSN: 0032-3861

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Poly(alkylene carbonates) were prepared by the melt-phase interchange reaction of aliphatic diols with di-Me carbonate. Aliphatic polycarbonates with inherent viscosity 0.3-0.8 dL/g were obtained. Polycarbonates derived from alicyclic diols have Tg below room temperature and melting temperature 50-60°. However, the polycarbonate derived from 1,4-bis(hydroxymethyl)cyclohexane has Tg 35° and melting temperature 97°, the highest yet reported for this class of polymer.

IT 101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer

146789-33-5P, 1,4-Butanediol-dimethyl carbonate copolymer

171926-74-2P, Dimethyl carbonate-1,8-octanediol copolymer

171926-77-5P, Dimethyl carbonate-poly(tetramethylene glycol) copolymer

(preparation, characterization and thermal properties of)

RN 101325-00-2 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI)  
 (CA INDEX NAME)

CM 1

CRN 629-11-8

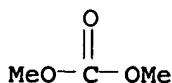
CMF C6 H14 O2

HO-(CH<sub>2</sub>)<sub>6</sub>-OH

CM 2

CRN 616-38-6

CMF C3 H6 O3

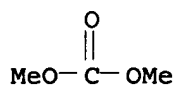


RN 146789-33-5 HCAPLUS  
CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol (9CI)  
(CA INDEX NAME)

CM 1

CRN 616-38-6

CMF C3 H6 O3



CM 2

CRN 110-63-4

CMF C4 H10 O2

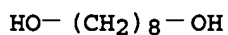


RN 171926-74-2 HCAPLUS  
CN Carbonic acid, dimethyl ester, polymer with 1,8-octanediol (9CI)  
(CA INDEX NAME)

CM 1

CRN 629-41-4

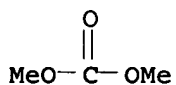
CMF C8 H18 O2



CM 2

CRN 616-38-6

CMF C3 H6 O3



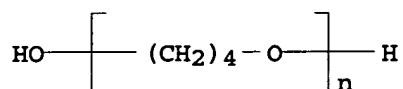
RN 171926-77-5 HCAPLUS  
CN Carbonic acid, dimethyl ester, polymer with  $\alpha$ -hydro- $\omega$ -  
hydroxypoly(oxy-1,4-butanediyl) (9CI) (CA INDEX NAME)

CM 1

CRN 25190-06-1

CMF (C4 H8 O)<sub>n</sub> H2 O

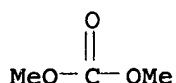
CCI PMS



CM 2

CRN 616-38-6

CMF C3 H6 O3



CC 35-5 (Chemistry of Synthetic High Polymers)  
 IT 24937-06-2P, Dimethyl carbonate-1,6-hexanediol copolymer sru  
 25805-40-7P, 1,4-Butanediol-dimethyl carbonate copolymer sru  
 26894-28-0P, 1,4-Cyclohexanedimethanol-dimethyl carbonate  
 copolymer sru 101325-00-2P, Dimethyl  
 carbonate-1,6-hexanediol copolymer 146789-33-5P,  
 1,4-Butanediol-dimethyl carbonate copolymer 171926-74-2P  
 , Dimethyl carbonate-1,8-octanediol copolymer 171926-75-3P,  
 Dimethyl carbonate-1,8-octanediol copolymer sru 171926-76-4P,  
 1,4-Cyclohexanedimethanol-dimethyl carbonate copolymer  
 171926-77-5P, Dimethyl carbonate-poly(tetramethylene  
 glycol) copolymer  
 (preparation, characterization and thermal properties of)

L54 ANSWER 52 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:969519 HCAPLUS

DOCUMENT NUMBER: 123:342861

TITLE: Porous polyurethane sheet

INVENTOR(S): Mizoguchi, Akinobu; Nakanishi, Shinji;  
Akasawa, Toshiyuki

PATENT ASSIGNEE(S): Kuraray Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 17 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 673962	A1	19950927	EP 1995-104137	1995 0321
EP 673962	B1	20000524		
R: DE, FR, GB, IT				
JP 07310289	A2	19951128	JP 1995-36422	1995 0224
JP 3090860	B2	20000925		

CN 1115769	A	19960131	CN 1995-103045	1995 0322
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CN 1046298	B	19991110		
US 5648151	A	19970715	US 1995-408288	
				1995
				0322

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KR 173697	B1	19990320	KR 1995-6395	1995 0322
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PRIORITY APPLN. INFO.: JP 1994-50524 A  
1994  
0322

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AB A porous sheet is obtained by wet coagulating a polyurethane comprising a soft segment component of repeating units from a polycarbonate, those from a diethylene glycol-based polyester and those from a tetramethylene glycol-based polyester, and a hard segment component of an aromatic diisocyanate and ethylene glycol. The polyurethane has excellent processability such as wet coagulatability and the porous sheet has good durability and flexibility, in particular flexibility at low temps. and is well usable for leather-like sheets.

IT 171189-11-0P 171189-12-1P  
(flexible porous polyurethane sheets with excellent durability  
for artificial leather)

RN	171189-11-0	HCAPLUS
CN	Hexanedioic acid, polymer with 1,4-butanediol, dimethyl carbonate, 1,2-ethanediol, 1,6-hexanediol, 1,1'-methylenebis[4-isocyanatobenzene] and 2,2'-oxybis[ethanol], block (9CI) (CA INDEX NAME)	

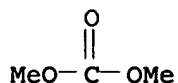
CM 1

CRN 629-11-8  
CMF C6 H14 O2

$$\text{HO}-(\text{CH}_2)_6-\text{OH}$$

CM 2

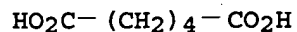
CRN 616-38-6  
CMF C3 H6 O3



CM 3

CRN 124-04-9

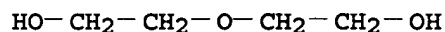
CMF C6 H10 O4



CM 4

CRN 111-46-6

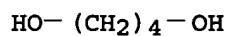
CMF C4 H10 O3



CM 5

CRN 110-63-4

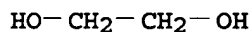
CMF C4 H10 O2



CM 6

CRN 107-21-1

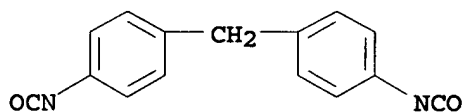
CMF C2 H6 O2



CM 7

CRN 101-68-8

CMF C15 H10 N2 O2



RN 171189-12-1 HCAPLUS

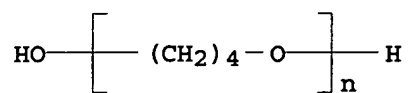
CN Hexanedioic acid, polymer with 1,4-butanediol, dimethyl carbonate, 1,2-ethanediol, 1,6-hexanediol,  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,4-butanediyl), 1,1'-methylenebis[4-isocyanatobenzene] and 2,2'-oxybis[ethanol], block (9CI) (CA INDEX NAME)

CM 1

CRN 25190-06-1

CMF (C4 H8 O)<sub>n</sub> H2 O

CCI PMS



CM 2

CRN 629-11-8

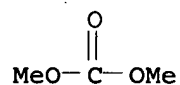
CMF C6 H14 O2



CM 3

CRN 616-38-6

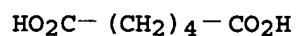
CMF C3 H6 O3



CM 4

CRN 124-04-9

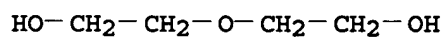
CMF C6 H10 O4



CM 5

CRN 111-46-6

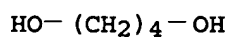
CMF C4 H10 O3



CM 6

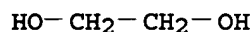
CRN 110-63-4

CMF C4 H10 O2



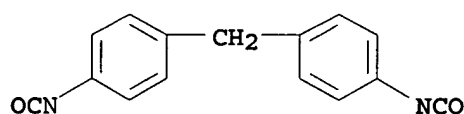
CM 7

CRN 107-21-1  
CMF C2 H6 O2



CM 8

CRN 101-68-8  
CMF C15 H10 N2 O2



IC ICM C08J005-18  
ICS D06N003-14; C08G018-44; C08G018-66  
CC 38-3 (Plastics Fabrication and Uses)  
Section cross-reference(s): 37  
IT 171189-11-0P 171189-12-1P 171189-13-2P  
(flexible porous polyurethane sheets with excellent durability  
for artificial leather)

L54 ANSWER 53 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 1995:879169 HCAPLUS  
DOCUMENT NUMBER: 124:57819  
TITLE: Thermally crosslinkable polyurethane emulsions  
INVENTOR(S): Wada, Shuichi; Sato, Kazuo; Sainai, Naofumi;  
Fujiwara, Tsuyoshi  
PATENT ASSIGNEE(S): Dai Ichi Kogyo Seiyaku Co Ltd, Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07188373	A2	19950725	JP 1993-330779	1993 1227
JP 3197130	B2	20010813	JP 1993-330779	1993 1227

AB The title emulsions are prepared from (A) polyamines with  $\geq 2$  active amino groups, (B) stoichiometric excess amts. of isocyanate-terminated urethane prepolymers, and (C) blocked

isocyanate-containing compds. Thus, adding an MEK oxime-blocked NCO-containing HMDI-trimethylolpropane adduct to an emulsion prepared from diethylenetriamine and a urethane derived from butylene glycol-adipic acid copolymer, trimethylolpropane, polyethylene glycol, propylene glycol-ethylene glycol random copolymer, 1,4-butanediol, and IPDI gave a title emulsion.

IT 172082-31-4P

(thermally crosslinkable polyurethane emulsions)

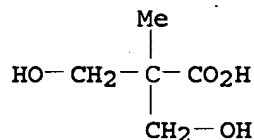
RN 172082-31-4 HCAPLUS

CN Propanoic acid, 3-hydroxy-2-(hydroxymethyl)-2-methyl-, polymer with N-(2-aminoethyl)-1,2-ethanediamine, 1,4-butanediol, dimethyl carbonate, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 1,6-hexanediol and 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane (9CI) (CA INDEX NAME)

CM 1

CRN 4767-03-7

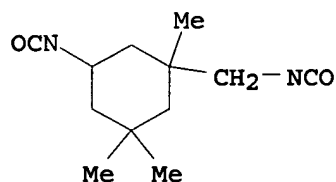
CMF C5 H10 O4



CM 2

CRN 4098-71-9

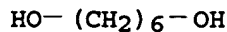
CMF C12 H18 N2 O2



CM 3

CRN 629-11-8

CMF C6 H14 O2

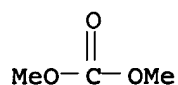


CM 4

CRN 616-38-6

CMF C3 H6 O3





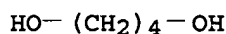
CM 5

CRN 111-40-0  
CMF C4 H13 N3



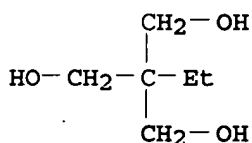
CM 6

CRN 110-63-4  
CMF C4 H10 O2



CM 7

CRN 77-99-6  
CMF C6 H14 O3



IC ICM C08G018-32

ICS C08G018-10; C08G018-80; C08L075-02

CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 38

IT 77-99-6DP, Trimethylolpropane, polymers with polyester polyols, polyether polyols, polyalkylenepolyamines and polyisocyanates 110-63-4DP, 1,4-Butanediol, polymers with polycarboxylic acids, polyether polyols, polyalkylenepolyamines and polyisocyanates 111-40-0DP, Diethylenetriamine, polymers with polyester polyols, polyether polyols and polyisocyanates 124-04-9DP, Adipic acid, polyester polyols, polymers with glycols, polyether polyols, polyalkylenepolyamines and polyisocyanates 822-06-0DP, HMDI, polymers with polyester polyols, polyether polyols, polyalkylenepolyamines and other polyisocyanates 4098-71-9DP, IPDI, polymers with polyester glycols, polyether polyols, polyalkylenepolyamines and other polyisocyanates 9003-11-6DP, Ethylene oxide-propylene oxide copolymer, polyols, polymers with polyether polyols, polyalkylenepolyamines and polyisocyanates 25322-68-3DP, PEG, polymers with glycols, polyester polyols, polyalkylenepolyamines and polyisocyanates 27193-25-5DP,

Cyclohexanedimethanol, polymers with polyester polyols, polyether polyols and polyisocyanates 172082-31-4P  
(thermally crosslinkable polyurethane emulsions)

L54 ANSWER 54 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1995:693682 HCAPLUS  
 DOCUMENT NUMBER: 123:233146  
 TITLE: Synthetic lubricating oils having high resistance to hydrolysis and thermal degradation  
 INVENTOR(S): Iwamoto, Yoshiaki; Higaki, Juzo  
 PATENT ASSIGNEE(S): Nisshin Fine Chemical Kk, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

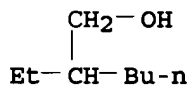
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 07118676	A2	19950509	JP 1993-284558	1993 1019

PRIORITY APPLN. INFO.: <-- JP 1993-284558  
 1993  
 1019

AB The oils contain polycondensates of neopentyl polyols, dialkyl carbonates, monohydric alcs., and optionally dihydric alcs. excluding dihydric neopentyl polyols. The oils are suitable for metalworking and lubrication.  
 IT 168395-67-3DP, reaction products with 2-ethylhexanol (lubricating oils containing polycondensates of neopentyl polyols and dialkyl carbonates and monohydric alcs. for high resistance to hydrolysis and thermal degradation)  
 RN 168395-67-3 HCAPLUS  
 CN Carbonic acid, dimethyl ester, polymer with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol and 1,9-nonanediol, 2-ethylhexyl ester (9CI) (CA INDEX NAME)

CM 1

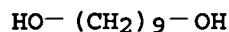
CRN 104-76-7  
 CMF C8 H18 O



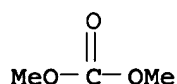
CM 2

CRN 168200-10-0  
 CMF (C9 H20 O2 . C6 H14 O3 . C3 H6 O3)x  
 CCI PMS

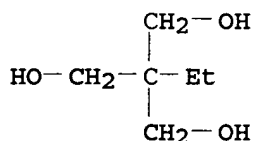
CM 3

CRN 3937-56-2  
CMF C9 H20 O2

CM 4

CRN 616-38-6  
CMF C3 H6 O3

CM 5

CRN 77-99-6  
CMF C6 H14 O3

IC ICM C10M105-32

ICI C10N030-00, C10N030-08, C10N040-22, C10N040-24

CC 51-8 (Fossil Fuels, Derivatives, and Related Products)

Section cross-reference(s): 35

IT 104-76-7DP, reaction products with di-Me carbonate-nonanediol;  
trimethylolpropane copolymer 143-08-8DP, Nonanol, reaction  
products with di-Pr carbonate-neopentyl glycol copolymer  
26248-42-0DP, Tridecanol, reaction products with di-Me  
carbonate-pentaerythritol-methylpentanediol copolymer  
27458-93-1DP, Isostearyl alcohol, reaction products with di-Et  
carbonate-pentaerythritol copolymer 168395-67-3DP,  
reaction products with 2-ethylhexanol 168395-68-4DP, reaction  
products with nonanol 168395-69-5DP, reaction products with  
isostearyl alc. 168395-70-8DP, reaction products with tridecanol  
(lubricating oils containing polycondensates of neopentyl polyols  
and dialkyl carbonates and monohydric alcs. for high resistance  
to hydrolysis and thermal degradation)

L54 ANSWER 55 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:662429 HCAPLUS

DOCUMENT NUMBER: 123:58028

TITLE: Manufacture of medical polyurethane-polyurea  
porous membranes

INVENTOR(S): Yoneda, Haruyuki

PATENT ASSIGNEE(S): Asahi Chemical Ind, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07053764	A2	19950228	JP 1993-222772	1993 0817

PRIORITY APPLN. INFO.:

<--  
 JP 1993-222772

1993  
 0817

AB Medical polyurethane-polyurea porous membranes containing no impurities are manufactured by withdrawing from an aqueous solution (containing  $\geq 70$  weight% water) a film which is made by a wet or dry process from a 1st polyurethane-polyurea comprising alternating structural units  $\text{-NHCO(OR1O2CNHR2NHCO)nOR1OCONHR2-}$  and  $\text{-NHCO(NHR3NHCONHR2NHCO)mNHR3NHCONHR2-}$  ( $m = 0-10$ ;  $n = 0-20$ ;  $R1 =$  divalent polyethylene glycol group having two alkylene end groups;  $R2 =$  divalent hydrocarbon group having a mol. weight of  $\leq 500$ ;  $R3 = C1-15$  divalent hydrocarbon group) and a 2nd polyurethane-polyurea comprising a mixture of 0-40 mol% of a polyurethane-polyurea comprising the same structural units as above ( $m, n, R2, R3$  as above;  $R1 =$  divalent polysiloxane group having two alkylene end groups) and 60-100 mol% of a polyurethane-polyurea comprising the same structural units as above ( $m, n, R2, R3$  as above;  $R1 =$  divalent polyester and/or polycarbonate residue having two alkylene end groups,  $\geq 1$  of them being a  $C2-8$  alkylene group) at a weight ratio of 1:5 to 3:1.

IT 164721-39-5P 164721-41-9P

(in manufacture of medical porous membrane)

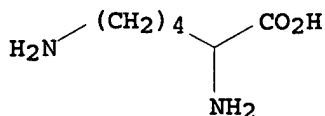
RN 164721-39-5 HCAPLUS

CN Lysine, monosodium salt, polymer with 1,6-diisocyanatohexane, dimethyl carbonate, 1,7-heptanediol and 1,6-hexanediol, block (9CI) (CA INDEX NAME)

CM 1

CRN 163656-36-8

CMF C6 H14 N2 O2 . Na



● Na

CM 2

CRN 822-06-0

CMF C8 H12 N2 O2

OCN-(CH<sub>2</sub>)<sub>6</sub>-NCO

CM 3

CRN 629-30-1

CMF C7 H16 O2

HO-(CH<sub>2</sub>)<sub>7</sub>-OH

CM 4

CRN 629-11-8

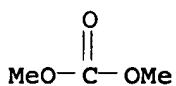
CMF C6 H14 O2

HO-(CH<sub>2</sub>)<sub>6</sub>-OH

CM 5

CRN 616-38-6

CMF C3 H6 O3



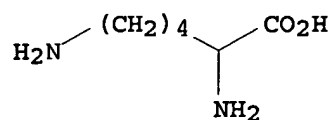
RN 164721-41-9 HCAPLUS

CN Lysine, monosodium salt, polymer with 1,6-diisocyanatohexane, dimethyl carbonate, 1,7-heptanediol, 1,6-hexanediol and  $\alpha$ -[(3-hydroxypropyl)dimethylsilyl]- $\omega$ -[(3-hydroxypropyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)], block (9CI) (CA INDEX NAME)

CM 1

CRN 163656-36-8

CMF C6 H14 N2 O2 . Na



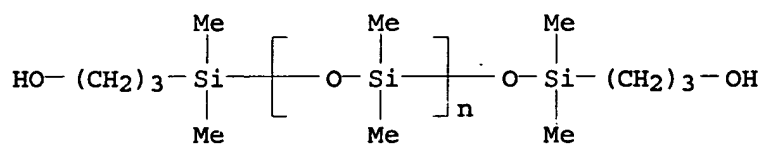
● Na

CM 2

CRN 58130-02-2

CMF (C2 H6 O Si)<sub>n</sub> C10 H26 O3 Si2

CCI PMS



CM 3

CRN 822-06-0

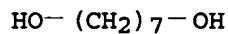
CMF C8 H12 N2 O2



CM 4

CRN 629-30-1

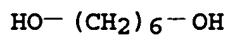
CMF C7 H16 O2



CM 5

CRN 629-11-8

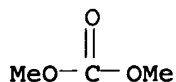
CMF C6 H14 O2



CM 6

CRN 616-38-6

CMF C3 H6 O3



IC ICM C08J009-28  
 CC 38-2 (Plastics Fabrication and Uses)  
 Section cross-reference(s): 63  
 IT 106102-97-0P, Ethylenediamine-MDI-polyethylene glycol block  
 copolymer 107375-35-9P 164721-38-4P 164721-39-5P  
 164721-41-9P  
 (in manufacture of medical porous membrane)

L54 ANSWER 56 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1995:547647 HCAPLUS  
 DOCUMENT NUMBER: 122:322569  
 TITLE: Antithrombotic polyurethane-urea for medical  
 uses  
 INVENTOR(S): Yoneda, Haruyuki  
 PATENT ASSIGNEE(S): Asahi Chemical Ind, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07048431	A2	19950221	JP 1993-211022	1993 0804

PRIORITY APPLN. INFO.: JP 1993-211022  
 1993  
 0804

AB The title polymers, useful for biocompatible artificial organs, catheter, A-V shunt, etc., comprise polymers having alternative repeating units of [R2NHCO[OR1O2CNHR2NHCO]nOR1O2CNHR2] and [NHCO[NHR3NHCONHR2NHCO]mNHR3NHCONH] [95-60 mol% of R1 = C3-8 alkylene-terminated polyether or C2-8 alkylene-terminated polyester and/or polycarbonate; 5-40 mol% of R1 = alkylene-terminated polysiloxane; R2 = divalent hydrocarbyl (mol. weight ≤500); R3 = residue of amino acid or biol. amines having 2 NH2 groups]. Di-Me carbonate-hexamethylene diol-pentamethylene diol copolymer 30, propanol-terminated di-Me siloxane 10, and hexamethylene diisocyanate 60 mmol were treated with dibutyltin laurate in MeCONMe2 at 60° for 3 h, then treated with aqueous solution of 20 mmol DL-lysine Na salt at 15° for 2 h to give polyurethane-urea, which had 5% CH50 and blood coagulation time 3.3 h by Lee-White method.

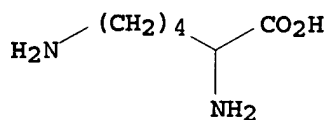
IT 163656-38-0P 163656-39-1P 163656-40-4P  
 (antithrombotic polyurethane-polyurea for medical goods)  
 RN 163656-38-0 HCAPLUS  
 CN Lysine, sodium salt, polymer with 1,6-diisocyanatohexane, dimethyl

carbonate, 1,6-hexanediol,  $\alpha$ -[(3-hydroxypropyl)dimethylsilyl]- $\omega$ -[[3-hydroxypropyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)] and 1,5-pentanediol (9CI) (CA INDEX NAME)

CM 1

CRN 163656-36-8

CMF C6 H14 N2 O2 . Na



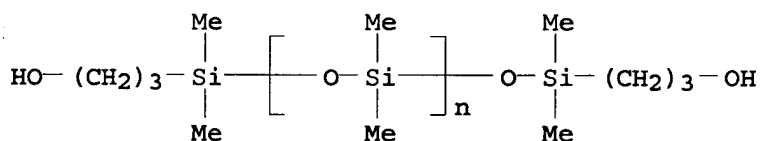
● Na

CM 2

CRN 58130-02-2

CMF (C2 H6 O Si)<sub>n</sub> C10 H26 O3 Si2

CCI PMS



CM 3

CRN 822-06-0

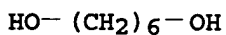
CMF C8 H12 N2 O2



CM 4

CRN 629-11-8

CMF C6 H14 O2

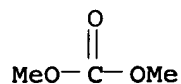


CM 5

CRN 616-38-6



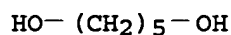
CMF C3 H6 O3



CM 6

CRN 111-29-5

CMF C5 H12 O2



RN 163656-39-1 HCAPLUS

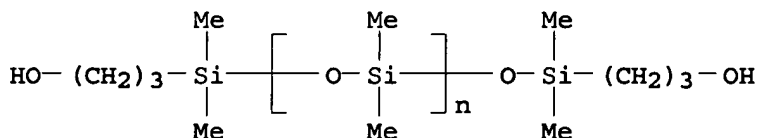
CN Carbonic acid, dimethyl ester, polymer with 2,2'-dithiobis[ethanamine], 1,6-hexanediol,  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,4-butanediyl),  $\alpha$ -[(3-hydroxypropyl)dimethylsilyl]- $\omega$ [[3-hydroxypropyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)], 1,1'-methylenebis[4-isocyanatobenzene] and 1,5-pentanediol (9CI)  
(CA INDEX NAME)

CM 1

CRN 58130-02-2

CMF (C2 H6 O Si)<sub>n</sub> C10 H26 O3 Si2

CCI PMS

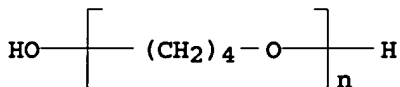


CM 2

CRN 25190-06-1

CMF (C4 H8 O)<sub>n</sub> H2 O

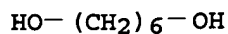
CCI PMS



CM 3

CRN 629-11-8

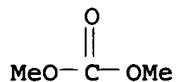
CMF C6 H14 O2



CM 4

CRN 616-38-6

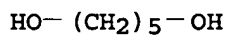
CMF C3 H6 O3



CM 5

CRN 111-29-5

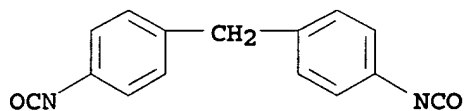
CMF C5 H12 O2



CM 6

CRN 101-68-8

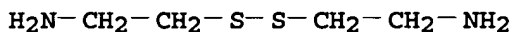
CMF C15 H10 N2 O2



CM 7

CRN 51-85-4

CMF C4 H12 N2 S2



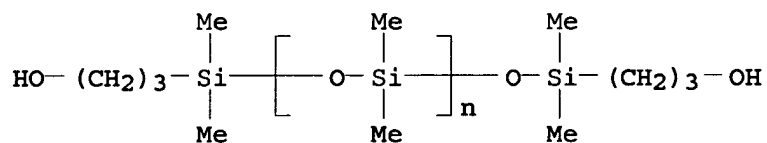
RN 163656-40-4 HCAPLUS

CN Lysine, polymer with dimethyl carbonate, 1,6-hexanediol,  
 α-hydro-ω-hydroxypoly[oxy(methyl-1,2-ethanediyl)],  
 α-[(3-hydroxypropyl)dimethylsilyl]-ω-[[3-  
 hydroxypropyl)dimethylsilyl]oxy]poly[oxy(dimethylsilylene)],  
 1,1'-methylenebis[4-isocyanatobenzene] and 1,5-pentanediol (9CI)  
 (CA INDEX NAME)

CM 1

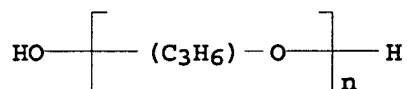
CRN 58130-02-2

CMF (C2 H6 O Si)n C10 H26 O3 Si2  
 CCI PMS



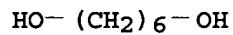
CM 2

CRN 25322-69-4  
 CMF (C3 H6 O)n H2 O  
 CCI IDS, PMS



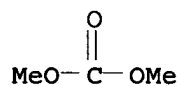
CM 3

CRN 629-11-8  
 CMF C6 H14 O2



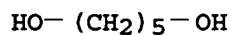
CM 4

CRN 616-38-6  
 CMF C3 H6 O3



CM 5

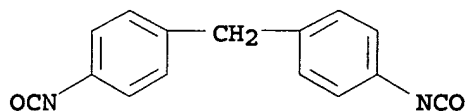
CRN 111-29-5  
 CMF C5 H12 O2



CM 6

CRN 101-68-8

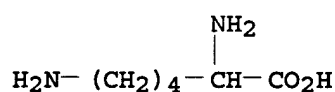
CMF C15 H10 N2 O2



CM 7

CRN 70-54-2

CMF C6 H14 N2 O2



IC ICM C08G018-42  
ICS A61L027-00; C08G018-48; C08G018-61; C08G018-65  
CC 63-7 (Pharmaceuticals)  
IT 51-85-4DP, Cystamine, copolymers with polyols, carbonates, hydroxypropyl-terminated siloxanes, and diisocyanates 70-54-2DP, DL-Lysine, copolymers with polyols, carbonates, hydroxypropyl-terminated siloxanes, and diisocyanates 101-68-8DP, copolymers with polyols, carbonates, hydroxypropyl-terminated siloxanes, and diamines 111-29-5DP, 1,5-Pentanediol, copolymers with carbonate, hydroxypropyl-terminated siloxanes, diisocyanates, and diamines 616-38-6DP, Dimethyl carbonate, copolymers with polyols, hydroxypropyl-terminated siloxanes, diisocyanates, and diamines 629-11-8DP, 1,6-Hexanediol, copolymers with carbonate, hydroxypropyl-terminated siloxanes, diisocyanates, and diamines 822-06-0DP, copolymers with polyols, carbonates, hydroxypropyl-terminated siloxanes, and diamines 24937-05-1DP, Poly(ethylene adipate), hydroxy-terminated, copolymers with carbonate, hydroxypropyl-terminated siloxanes, diisocyanates, and diamines 25190-06-1DP, copolymers with carbonate, hydroxypropyl-terminated siloxanes, diisocyanates, and diamines 25322-69-4DP, Polypropylene glycol, copolymers with carbonate, hydroxypropyl-terminated siloxanes, diisocyanates, and diamines 31900-57-9DP, Dimethylsilanediol homopolymer, hydroxypropyl-terminated, copolymers with polyols, carbonates, diisocyanates, and diamines 58130-02-2DP, copolymers with polyols, carbonate, diisocyanates, and diamines 64704-23-0DP, copolymers with polyols, carbonates, hydroxypropyl-terminated siloxanes, and diisocyanates 163656-36-8DP, copolymers with polyols, carbonates, hydroxypropyl-terminated siloxanes, and diisocyanates 163656-38-0P 163656-39-1P 163656-40-4P  
(antithrombotic polyurethane-polyurea for medical goods)

L54 ANSWER 57 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1994:220504 HCAPLUS

DOCUMENT NUMBER: 120:220504

TITLE: Polycarbonate polyols for coatings

INVENTOR(S): Nakae, Yasuhiko; Tanabe, Hisaki; Nishi, Tadahiko; Eguchi, Yoshio

PATENT ASSIGNEE(S): Nippon Paint Co., Ltd., Japan  
 SOURCE: Eur. Pat. Appl., 15 pp.  
 CODEN: EPXXDW  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

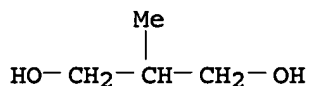
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 562577	A1	19930929	EP 1993-104872	1993 0324
EP 562577	B1	19970604	<--	
R: DE, FR, GB				
JP 05271615	A2	19931019	JP 1992-65803	1992 0324
JP 06073173	A2	19940315	JP 1992-227033	1992 0826
CA 2092225	AA	19930925	CA 1993-2092225	1993 0323
AU 9335373	A1	19930930	AU 1993-35373	1993 0323
AU 670570	B2	19960725	<--	
US 5527879	A	19960618	US 1993-36247	1993 0324
PRIORITY APPLN. INFO.:			JP 1992-65803	A 1992 0324
			JP 1992-227033	A 1992 0826
AB	Coatings giving clear and smooth films contain 10-50% melamine resin crosslinkers and 50-90% polycarbonate polyols having mol. weight 400-10,000 and OH value 50-350 prepared from polyols comprising ≥10 mol% branched diols, ≥10 mol% tri- or higher polyhydric alcs., and balanced amts. of other polyhydric alcs. A composition containing 4.7:1.5:2.7:1.0 mol di-Ph carbonate-2-methyl-1,8-octane diol-1,9-nonane diol-trimethylolpropane dimer copolymer 70, U-Van 128 50, and p-toluene sulfonic acid was spread on a steel plate and cured at 140 Celsius degree for 25 min to give a 60-μm film having good smoothness, and impact, solvent, and water resistance.			
IT	153540-35-3P (preparation of, melamine resin-compatible, for coatings with impact, solvent, and water resistance)			

RN 153540-35-3 HCAPLUS  
 CN D-Glucitol, polymer with dimethyl carbonate and  
 2-methyl-1,3-propanediol (9CI) (CA INDEX NAME)

CM 1

CRN 2163-42-0

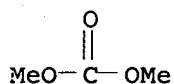
CMF C4 H10 O2



CM 2

CRN 616-38-6

CMF C3 H6 O3

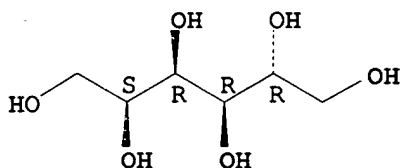


CM 3

CRN 50-70-4

CMF C6 H14 O6

Absolute stereochemistry.



IC ICM C09D169-00

CC 42-10 (Coatings, Inks, and Related Products)

IT 153540-29-5P 153540-30-8P 153540-31-9P 153540-32-0P  
 153540-33-1P 153540-34-2P 153540-35-3P 153724-57-3P  
 153890-67-6P

(preparation of, melamine resin-compatible, for coatings with  
 impact, solvent, and water resistance)

L54 ANSWER 58 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1994:193838 HCAPLUS

DOCUMENT NUMBER: 120:193838

TITLE: Thermoplastic poly(carbonate ester) block  
 copolymer elastomers and their manufacture

INVENTOR(S): Saiki, Noritsugu; Hayashi, Masayuki

PATENT ASSIGNEE(S): Teijin Ltd, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05295095	A2	19931109	JP 1992-122782	1992 0417
JP 3078644	B2	20000821	JP 1992-122782	1992 0417

PRIORITY APPLN. INFO.: <--

AB The title elastomers, useful for manufacture of fibers and films with high elastic recovery and good light, chlorine, and hydrolysis resistance, comprise (A) poly(carbonate ester) segments comprising C4-12 aliphatic glycols linked via carbonate or ester bond and containing 10-70% aromatic dicarboxylic acid-based ester units and (B) polyester segments (m.p.  $\geq 170^\circ$ ) prepared mainly from aromatic dicarboxylic acids and  $\geq 1$  glycol selected from ethylene glycol, trimethylene glycol, tetramethylene glycol, and cyclohexanedimethanol. Poly(carbonate esters) (A) with  $[\eta] \geq 0.5$  and polyesters (B) are mixed in molten state to give title block elastomers having a m.p.  $2-50^\circ$  lower than that of the B. Thus, di-Me isophthalate-hexamethylene glycol-di-Ph carbonate copolymer with  $[\eta]$  0.96 was treated with poly(tetramethylene terephthalate) (m.p.  $223^\circ$ ) at  $250^\circ$  and 0.5 mmHg for 40 min and mixed with  $H_3PO_3$  at 1 atmospheric to give a block copolymer with  $[\eta]$  0.99 and m.p.  $196^\circ$ . Fiber prepared by melt spinning the copolymer showed elastic recovery (200% elongation) 91% at room temperature and 90% at  $0^\circ$ .

IT 153733-86-9P 153733-87-0P 153733-88-1P  
 153852-44-9P

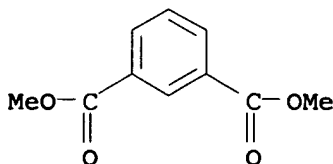
(rubber, preparation of, light- and chlorine- and hydrolysis-resistant, for fibers)

RN 153733-86-9 HCAPLUS

CN 1,3-Benzenedicarboxylic acid, dimethyl ester, polymer with 1,4-benzenedicarboxylic acid, 1,4-butanediol, 1,10-decanediol, dimethyl 1,4-benzenedicarboxylate, dimethyl carbonate and 1,6-hexanediol, block (9CI) (CA INDEX NAME)

CM 1

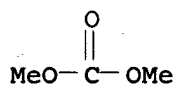
CRN 1459-93-4  
 CMF C10 H10 O4



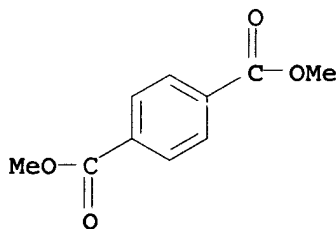
CM 2

CRN 629-11-8  
CMF C6 H14 O2

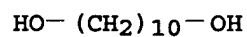
CM 3

CRN 616-38-6  
CMF C3 H6 O3

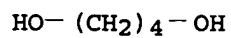
CM 4

CRN 120-61-6  
CMF C10 H10 O4

CM 5

CRN 112-47-0  
CMF C10 H22 O2

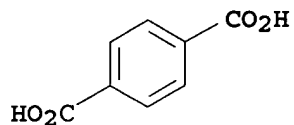
CM 6

CRN 110-63-4  
CMF C4 H10 O2

CM 7



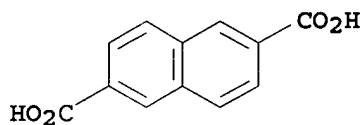
CRN 100-21-0  
CMF C8 H6 O4



RN 153733-87-0 HCAPLUS  
CN 2,6-Naphthalenedicarboxylic acid, polymer with  
1,2-benzenedicarboxylic acid, 1,3-benzenedicarboxylic acid,  
1,4-butanediol, dimethyl carbonate and 1,6-hexanediol, block (9CI)  
(CA INDEX NAME)

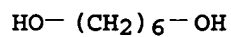
CM 1

CRN 1141-38-4  
CMF C12 H8 O4



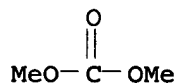
CM 2

CRN 629-11-8  
CMF C6 H14 O2



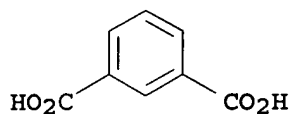
CM 3

CRN 616-38-6  
CMF C3 H6 O3



CM 4

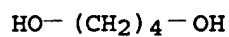
CRN 121-91-5  
CMF C8 H6 O4



CM 5

CRN 110-63-4

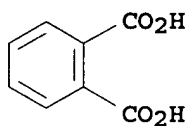
CMF C4 H10 O2



CM 6

CRN 88-99-3

CMF C8 H6 O4



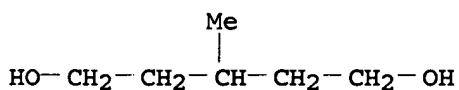
RN 153733-88-1 HCAPLUS

CN 2,7-Naphthalenedicarboxylic acid, polymer with  
1,3-benzenedicarboxylic acid, 1,4-butanediol, dimethyl carbonate  
and 3-methyl-1,5-pentanediol, block (9CI) (CA INDEX NAME)

CM 1

CRN 4457-71-0

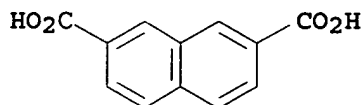
CMF C6 H14 O2



CM 2

CRN 2089-89-6

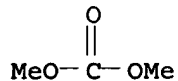
CMF C12 H8 O4



CM 3

CRN 616-38-6

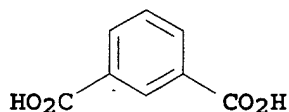
CMF C3 H6 O3



CM 4

CRN 121-91-5

CMF C8 H6 O4



CM 5

CRN 110-63-4

CMF C4 H10 O2



RN 153852-44-9 HCAPLUS

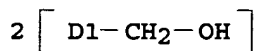
CN 1,3-Benzenedicarboxylic acid, polymer with 1,4-benzenedicarboxylic acid, cyclohexanedimethanol, 1,10-decanediol, dimethyl carbonate, 1,2-ethanediol and 1,6-hexanediol, block (9CI) (CA INDEX NAME)

CM 1

CRN 27193-25-5

CMF C8 H16 O2

CCI IDS



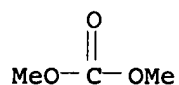
CM 2

CRN 629-11-8  
CMF C6 H14 O2



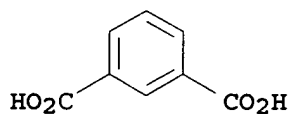
CM 3

CRN 616-38-6  
CMF C3 H6 O3



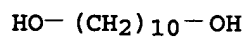
CM 4

CRN 121-91-5  
CMF C8 H6 O4



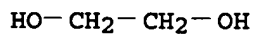
CM 5

CRN 112-47-0  
CMF C10 H22 O2



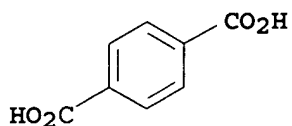
CM 6

CRN 107-21-1  
CMF C2 H6 O2



CM 7

CRN 100-21-0  
CMF C8 H6 O4



IC ICM C08G063-64  
ICS C08G081-00  
CC 39-4 (Synthetic Elastomers and Natural Rubber)  
Section cross-reference(s): 35, 40  
IT 153733-85-8P 153733-86-9P 153733-87-0P  
153733-88-1P 153852-44-9P  
(rubber, preparation of, light- and chlorine- and  
hydrolysis-resistant, for fibers)

L54 ANSWER 59 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 1993:561970 HCAPLUS  
DOCUMENT NUMBER: 119:161970  
TITLE: Diol-terminated polycarbonates and their use  
in reactive adhesive and/or sealing  
formulations  
INVENTOR(S): Greco, Alberto  
PATENT ASSIGNEE(S): Enichem Synthesis S.p.A., Italy  
SOURCE: Eur. Pat. Appl., 17 pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 533275	A2	19930324	EP 1992-202823	1992 0915
EP 533275	A3	19930414		
EP 533275	B1	19981223		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, PT, SE				
US 5288839	A	19940222	US 1992-944908	1992 0915
AT 174940	E	19990115	AT 1992-202823	1992 0915
JP 05239202	A2	19930917	JP 1992-290659	1992 0917
JP 3240194	B2	20011217		
PRIORITY APPLN. INFO.:			IT 1991-MI2457	A 1991 0917
OTHER SOURCE(S):	MARPAT	119:161970		

AB The title polymers, useful in the preparation of prepolymers which in turn can be used in reactive adhesive and/or sealing formulations of the hygro-, photo-, or thermosetting type, are prepared Thus, reacting 12.04 mol di-Me carbonate with 4.5 mol 1,12-dodecanediol and 5.5 mol 1,6-hexanediol gave a polymer (I) having OH value 28.2, number-average mol. weight 3976, and glass transition temperature -58°. Reacting 27.67 mmol I and 60.86 mmol MDI gave an NCO-terminated prepolymer, which was cured and molded into test plates showing good hydrolytic resistance.

IT 150174-49-5P 150174-50-8P 150174-51-9P  
150174-52-0P 150174-53-1P

(preparation of, for adhesives and sealing compns.)

RN 150174-49-5 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,12-dodecanediol, 1,6-hexanediol and 1,1'-methylenebis[4-isocyanatobenzene] (9CI)  
(CA INDEX NAME)

CM 1

CRN 5675-51-4  
CMF C12 H26 O2

HO-(CH<sub>2</sub>)<sub>12</sub>-OH

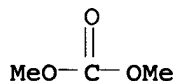
CM 2

CRN 629-11-8  
CMF C6 H14 O2

HO-(CH<sub>2</sub>)<sub>6</sub>-OH

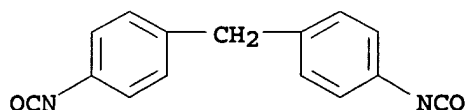
CM 3

CRN 616-38-6  
CMF C3 H6 O3



CM 4

CRN 101-68-8  
CMF C15 H10 N2 O2



RN 150174-50-8 HCAPLUS  
 CN Carbonic acid, dimethyl ester, polymer with 1,10-decanediol,  
 1,6-hexanediol and 1,1'-methylenebis[4-isocyanatobenzene] (9CI)  
 (CA INDEX NAME)

CM 1

CRN 629-11-8

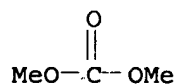
CMF C6 H14 O2

HO-(CH<sub>2</sub>)<sub>6</sub>-OH

CM 2

CRN 616-38-6

CMF C3 H6 O3



CM 3

CRN 112-47-0

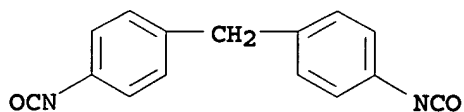
CMF C10 H22 O2

HO-(CH<sub>2</sub>)<sub>10</sub>-OH

CM 4

CRN 101-68-8

CMF C15 H10 N2 O2

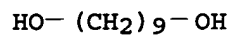


RN 150174-51-9 HCAPLUS  
 CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol,  
 1,1'-methylenebis[4-isocyanatobenzene] and 1,9-nonanediol (9CI)  
 (CA INDEX NAME)

CM 1

CRN 3937-56-2

CMF C9 H20 O2



CM 2

CRN 629-11-8

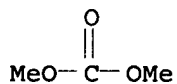
CMF C6 H14 O2



CM 3

CRN 616-38-6

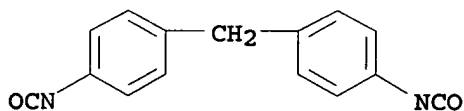
CMF C3 H6 O3



CM 4

CRN 101-68-8

CMF C15 H10 N2 O2



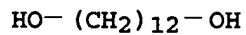
RN 150174-52-0 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,12-dodecanediol and 1,1'-methylenebis[4-isocyanatobenzene] (9CI) (CA INDEX NAME)

CM 1

CRN 5675-51-4

CMF C12 H26 O2

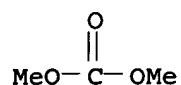


CM 2

CRN 616-38-6

CMF C3 H6 O3

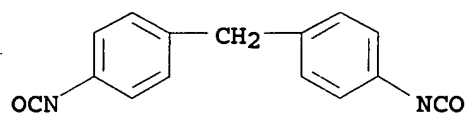




CM 3

CRN 101-68-8

CMF C15 H10 N2 O2



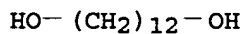
RN 150174-53-1 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,12-dodecanediol,  
1,1'-methylenebis[4-isocyanatobenzene] and 2-oxepanone (9CI) - (CA  
INDEX NAME)

CM 1

CRN 5675-51-4

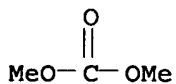
CMF C12 H26 O2



CM 2

CRN 616-38-6

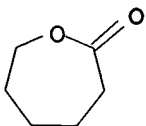
CMF C3 H6 O3



CM 3

CRN 502-44-3

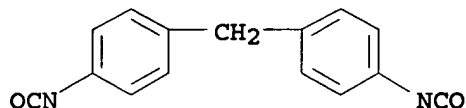
CMF C6 H10 O2



CM 4

CRN 101-68-8

CMF C15 H10 N2 O2



IT 150174-45-1DP, diol derivs. 150174-46-2DP, diol  
 derivs. 150174-47-3DP, diol derivs.  
 150174-48-4DP, diol derivs.  
 (preparation of, for manufacture of polyurethanes, for adhesives and  
 sealing comps.)

RN 150174-45-1 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,12-dodecanediol and  
 1,6-hexanediol (9CI) (CA INDEX NAME)

CM 1

CRN 5675-51-4

CMF C12 H26 O2

HO-(CH<sub>2</sub>)<sub>12</sub>-OH

CM 2

CRN 629-11-8

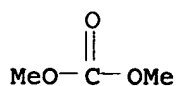
CMF C6 H14 O2

HO-(CH<sub>2</sub>)<sub>6</sub>-OH

CM 3

CRN 616-38-6

CMF C3 H6 O3



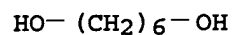
RN 150174-46-2 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,10-decanediol and  
 1,6-hexanediol (9CI) (CA INDEX NAME)

CM 1

CRN 629-11-8

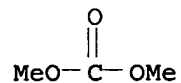
CMF C6 H14 O2



CM 2

CRN 616-38-6

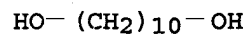
CMF C3 H6 O3



CM 3

CRN 112-47-0

CMF C10 H22 O2



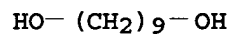
RN 150174-47-3 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and 1,9-nonanediol (9CI) (CA INDEX NAME)

CM 1

CRN 3937-56-2

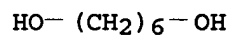
CMF C9 H20 O2



CM 2

CRN 629-11-8

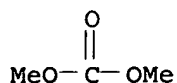
CMF C6 H14 O2



CM 3

CRN 616-38-6

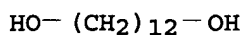
CMF C3 H6 O3



RN 150174-48-4 HCAPLUS  
 CN Carbonic acid, dimethyl ester, polymer with 1,12-dodecanediol and 2-oxepanone (9CI) (CA INDEX NAME)

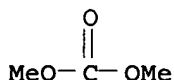
CM 1

CRN 5675-51-4  
 CMF C12 H26 O2



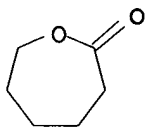
CM 2

CRN 616-38-6  
 CMF C3 H6 O3



CM 3

CRN 502-44-3  
 CMF C6 H10 O2



IC ICM C08G064-02  
 ICS C08G064-16; C08G018-44; C08G018-10; C08G018-28; C08G018-67;  
 C09J175-04; C09J175-16  
 CC 38-3 (Plastics Fabrication and Uses)  
 IT 150174-49-5P 150174-50-8P 150174-51-9P  
 150174-52-0P 150174-53-1P 150177-29-0DP,  
 reaction products with isocyanato group-terminated  
 polycarbonate-polyurethane prepolymers  
 (preparation of, for adhesives and sealing compns.)  
 IT 150174-45-1DP, diol derivs. 150174-46-2DP, diol  
 derivs. 150174-47-3DP, diol derivs.  
 150174-48-4DP, diol derivs.  
 (preparation of, for manufacture of polyurethanes, for adhesives and  
 sealing compns.)

L54 ANSWER 60 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1993:549531 HCAPLUS  
 DOCUMENT NUMBER: 119:149531  
 TITLE: Photosensitive compositions useful for making  
 presensitized lithographic plates  
 INVENTOR(S): Nakai, Hideyuki; Suzuki, Toshitsugu;  
 Matsumura, Tomoyuki  
 PATENT ASSIGNEE(S): Konishiroku Photo Ind, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 12 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 04362647	A2	19921215	JP 1991-164992	1991 0610

PRIORITY APPLN. INFO.: <-- JP 1991-164992 1991  
0610

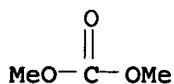
AB In the title composition comprising a compound which generates acid upon irradiation with actinic rays and a compound having a bond decomposable by the acid, the compound which generates acid upon irradiation with actinic rays is a condensate of o-naphthoquinonediazidosulfonic acid halide and an oxime-containing compound. The compns. show good stability in photosensitivity after exposure and under-developability (developability with respect to developers with reduced developing capacity).

IT 119201-95-5P  
 (preparation of, photosensitive composition containing, for lithog. plate making)

RN 119201-95-5 HCAPLUS  
 CN Carbonic acid, dimethyl ester, polymer with 1,2,6-hexanetriol (9CI) (CA INDEX NAME)

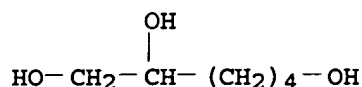
CM 1

CRN 616-38-6  
 CMF C3 H6 O3



CM 2

CRN 106-69-4  
 CMF C6 H14 O3



IC ICM G03F007-022  
 CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 IT 69468-60-6P 78537-86-7P 115324-80-6P 115815-82-2P  
 116745-41-6P 117646-94-3P 117647-26-4P 117647-27-5P  
 117992-19-5P 118188-70-8P 119201-95-5P 149671-27-2P  
 149671-30-7P  
 (preparation of, photosensitive composition containing, for lithog. plate  
 making)

L54 ANSWER 61 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1993:474369 HCAPLUS

DOCUMENT NUMBER: 119:74369

TITLE: Gas transport properties of  
 polycarbonate-polyurethane membranes

AUTHOR(S): Cao, N.; Pegoraro, M.; Bianchi, F.; Di Landro,  
 L.; Zanderighi, L.

CORPORATE SOURCE: Dip. Chim. Ind. Ing. Chim. "G Natta", Politec.  
 Milano, Milan, 20133, Italy

SOURCE: Journal of Applied Polymer Science (1993),  
 48(10), 1831-42

CODEN: JAPNAB; ISSN: 0021-8995

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Polyurethanes (PU) were prepared using polymeric diols, containing polar  
 groups, as carbonate groups, carbonate and ether groups, or  
 carbonate and ester groups. PUs were prepared by the prepolymer  
 two-step technique using EtOAc as the solvent; the diol was  
 reacted at .apprx.80° with TDI (ratio 1:2) to give the  
 prepolymer terminated with NCO, which was then crosslinked with  
 triisopropanolamine. The membranes were prepared using a Gardner  
 knife and were characterized by DTA (DSC). Most of the polymers  
 prepared from low- and medium-mol.-weight diols were amorphous and  
 elastomeric at the temperature of gas transport measurement  
 (35°). The permeabilities and the diffusion coeffs. of  
 different gases (O<sub>2</sub>, N<sub>2</sub>, CO<sub>2</sub>, CH<sub>4</sub>, CO) were measured by a modified  
 Lyssy apparatus, the solubility coefficient was also calculated Diffusivity

data follow the Fujita model and the solubility coeffs. follow the regular  
 solution theory, as developed by J. M. Prausnitz and F. H. Shair  
 (1961).

IT 74-82-8, Methane, properties 7727-37-9,  
 Nitrogen, properties  
 (permeation of, through polycarbonate-polyurethane rubber  
 membranes)

RN 74-82-8 HCAPLUS

CN Methane (8CI, 9CI) (CA INDEX NAME)

CH<sub>4</sub>

RN 7727-37-9 HCAPLUS

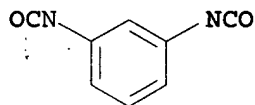
CN Nitrogen (8CI, 9CI) (CA INDEX NAME)

N  
|||  
N

IT 148946-78-5  
(rubber, membranes, gas transport properties of)  
RN 148946-78-5 HCAPLUS  
CN Carbonic acid, dimethyl ester, polymer with 1,3-  
diisocyanatomethylbenzene, 1,6-hexanediol, 1,1',1''-nitrilotris[2-  
propanol] and 2-oxepanone (9CI) (CA INDEX NAME)

CM 1

CRN 26471-62-5  
CMF C9 H6 N2 O2  
CCI IDS



D1-Me

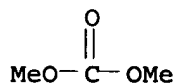
CM 2

CRN 629-11-8  
CMF C6 H14 O2

HO-(CH<sub>2</sub>)<sub>6</sub>-OH

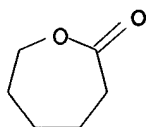
CM 3

CRN 616-38-6  
CMF C3 H6 O3



CM 4

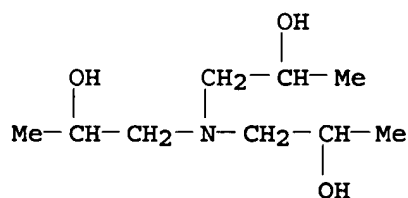
CRN 502-44-3  
CMF C6 H10 O2



CM 5

CRN 122-20-3

CMF C9 H21 N O3



- CC 39-12 (Synthetic Elastomers and Natural Rubber)
- IT 74-82-8, Methane, properties 124-38-9, Carbon dioxide, properties 630-08-0, Carbon monoxide, properties 7727-37-9, Nitrogen, properties 7782-44-7, Oxygen, properties (permeation of, through polycarbonate-polyurethane rubber membranes)
- IT 141312-66-5, 1,4-Butanediol-carbonic acid-TDI-triisopropanolamine copolymer 141312-67-6, Carbonic acid-1,6-hexanediol-1,5-pentanediol-TDI-triisopropanolamine copolymer 141312-68-7, Carbonic acid-TDI-triethylene glycol-triisopropanolamine copolymer 141328-65-6 141394-43-6, Carbonic acid-dipropylene glycol-TDI-triisopropanolamine copolymer 141395-13-3, Carbonic acid-dipropylene glycol-polypropylene glycol-TDI-triisopropanolamine copolymer 148946-78-5 (rubber, membranes, gas transport properties of)

L54 ANSWER 62 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1993:193581 HCAPLUS

DOCUMENT NUMBER: 118:193581

TITLE: Water-soluble biodegradable polyether-polycarbonates and their use as lubricants for synthetic fibers

INVENTOR(S): Goossens, Bernhard; Peppmoeller, Reinmar; Winck, Karl

PATENT ASSIGNEE(S): Chemische Fabrik Stockhausen GmbH, Germany

SOURCE: Ger. Offen., 6 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 4113889	A1	19921029	DE 1991-4113889	



1991  
0427

&lt;--

DE 4113889 C2 19940511  
EP 511589 A1 19921104 EP 1992-106958

1992  
0423

&lt;--

EP 511589 B1 19990721  
R: PT  
WO 9219664 A1 19921112 WO 1992-EP894

1992  
0423

&lt;--

W: JP, KR, US  
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE  
EP 582602 A1 19940216 EP 1992-909074

1992  
0423

&lt;--

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, MC, NL, SE  
JP 06509593 T2 19941027 JP 1992-508492

1992  
0423

&lt;--

JP 2651510 B2 19970910  
AT 182343 E 19990815 AT 1992-106958

1992  
0423

&lt;--

ES 2136607 T3 19991201 ES 1992-106958

1992  
0423

&lt;--

CN 1068812 A 19930210 CN 1992-103992

1992  
0427

&lt;--

CN 1041837 B 19990127  
US 5569408 A 19961029 US 1993-140048

1993  
1027

&lt;--

GR 3031566 T3 20000131 GR 1999-402660

1999  
1019

&lt;--

PRIORITY APPLN. INFO.:

DE 1991-4113889 A

1991  
0427

&lt;--

WO 1992-EP894 W

1992  
0423

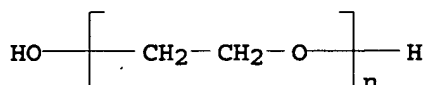
&lt;--

AB The title polymers  $R1O(CH_2CH_2O)_n[CO(OCHR_2CH_2)mO]_zR_3$  [ $R_1 = C_6-22$  alkyl;  $R_2 = H, Me$ ;  $R_3 = H, CO(OCH_2CH_2)nOR_1$ ;  $n = 0-10$ ;  $m = 5-16$ ;  $z = 1-3$ ] are prepared and used on polyester fibers. Thus, 240 g decyl alc. was transesterified with 150 g  $Me_2CO_3$ , and the product was reacted with 600 g polyethylene glycol (mol. weight 400) and 100 g

Me<sub>2</sub>CO<sub>3</sub> to prepare a lubricant.  
 IT 137369-83-6DP, dialkyl-terminated  
 (preparation of, as lubricants for synthetic fibers)  
 RN 137369-83-6 HCAPLUS  
 CN Carbonic acid, dimethyl ester, polymer with  $\alpha$ -hydro- $\omega$ -  
 hydroxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

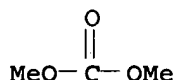
CM 1

CRN 25322-68-3  
 CMF (C<sub>2</sub> H<sub>4</sub> O)<sub>n</sub> H<sub>2</sub> O  
 CCI PMS



CM 2

CRN 616-38-6  
 CMF C<sub>3</sub> H<sub>6</sub> O<sub>3</sub>



IC ICM C07C069-96  
 ICS C07C068-06; C07C068-02; D06M013-232  
 ICA B01F017-42  
 CC 40-7 (Textiles and Fibers)  
 Section cross-reference(s): 38  
 IT 137369-83-6DP, dialkyl-terminated 147212-28-0DP,  
 dialkyl-terminated  
 (preparation of, as lubricants for synthetic fibers)

L54 ANSWER 63 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1993:169829 HCAPLUS  
 DOCUMENT NUMBER: 118:169829  
 TITLE: Preparation of high-molecular-weight  
 hydroxy-terminated polycarbonates  
 INVENTOR(S): Watanabe, Tomoya; Kawai, Kenzo  
 PATENT ASSIGNEE(S): Asahi Chemical Industry Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 04239024	A2	19920826	JP 1991-2212	1991 0111

PRIORITY APPLN. INFO.:

<--  
JP 1991-22121991  
0111

<--  
AB The title polymers are prepared with good yield by first preparation of low-mol.-weight polycarbonates, then adding diaryl carbonates, and heating the mixts. with the removal of aryl alcs. Thus, heating 1,5-pentanediol 12.58, 1,6-hexanediol 12.50, and ethylene carbonate 25.02 mol at 150° for 20 h gave a polycarbonate with number-average mol. weight (Mn) 328 and OH value 342 mg KOH/g, 251.2 g of which was heated with 173.34 g di-Ph carbonate at 150-200° to give 98% polymers having Mn 2810, and OH value 39.9 mg KOH/g.

IT 146841-89-6DP, hydroxy-terminated  
(preparation of, with high mol. weight)

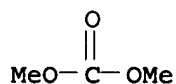
RN 146841-89-6 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with diphenyl carbonate, 1,6-hexanediol and 1,5-pentanediol (9CI) (CA INDEX NAME)

CM 1

CRN 629-11-8  
CMF C6 H14 O2HO-(CH<sub>2</sub>)<sub>6</sub>-OH

CM 2

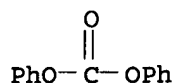
CRN 616-38-6  
CMF C3 H6 O3

CM 3

CRN 111-29-5  
CMF C5 H12 O2HO-(CH<sub>2</sub>)<sub>5</sub>-OH

CM 4

CRN 102-09-0  
CMF C13 H10 O3



IC ICM C08G064-40  
ICS C08G064-30  
CC 35-5 (Chemistry of Synthetic High Polymers)  
IT 116737-12-3DP, hydroxy-terminated 146841-87-4DP,  
hydroxy-terminated 146841-88-5DP, hydroxy-terminated  
146841-89-6DP, hydroxy-terminated 146841-90-9DP,  
hydroxy-terminated 146938-60-5DP, hydroxy-terminated  
(preparation of, with high mol. weight)

L54 ANSWER 64 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1993:169796 HCAPLUS  
DOCUMENT NUMBER: 118:169796  
TITLE: Catalytic process for the preparation of  
polyalkylene carbonates  
INVENTOR(S): Grey, Roger A.  
PATENT ASSIGNEE(S): ARCO Chemical Technology, L.P., USA  
SOURCE: U.S., 7 pp.  
CODEN: USXXAM  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 5171830	A	19921215	US 1991-746674	1991 0816

PRIORITY APPLN. INFO.:

<--  
US 1991-746674  
1991  
0816

OTHER SOURCE(S): MARPAT 118:169796

AB The title polymers useful as adhesives are prepared by reacting diols having  $\geq 4$  C separating OH groups with diesters of carbonic acid in the presence of a catalyst selected from tertiary amines, alkylammonium salts, pyridinium salts, and basic ion-exchangers bearing active alkylammonium or tertiary amino groups. Thus, heating 1,4-butanediol 19, di-Me carbonate 60, and tetrabutylammonium bromide 0.070 g gave a polymer having weight-average mol. weight 3700, m.p. 63-64°, and glass transition temperature 41°.

IT 101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer  
146789-33-5P

(preparation of, catalysts for, for hot-melt adhesives)

RN 101325-00-2 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI)  
(CA INDEX NAME)

CM 1

CRN 629-11-8

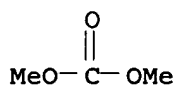
CMF C6 H14 O2

 $\text{HO}-(\text{CH}_2)_6-\text{OH}$ 

CM 2

CRN 616-38-6

CMF C3 H6 O3



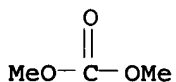
RN 146789-33-5 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol (9CI)  
(CA INDEX NAME)

CM 1

CRN 616-38-6

CMF C3 H6 O3



CM 2

CRN 110-63-4

CMF C4 H10 O2

 $\text{HO}-(\text{CH}_2)_4-\text{OH}$ 

IC ICM C08G064-30

INCL 528371000

CC 35-3 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 38

IT 24937-06-2P, Poly(oxy carbonyloxy-1,6-hexanediyl) 25805-40-7P,

Poly(oxy carbonyloxy-1,4-butanediyl) 78260-33-0P

101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer

146789-33-5P

(preparation of, catalysts for, for hot-melt adhesives)

L54 ANSWER 65 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1992:408728 HCAPLUS

DOCUMENT NUMBER: 117:8728

TITLE: Copolycarbonate diols for polyurethanes with  
increased modulus at low temperatures

INVENTOR(S): Endo, Toshiro; Fujii, Kagomi

PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03199230	A2	19910830	JP 1989-343725	1989 1227
JP 2884358	B2	19990419	JP 1989-343725	1989 1227

PRIORITY APPLN. INFO.: <--

AB Title diols are prepared by treating compds. requiring dehydrochlorination steps, alkylene carbonates, diaryl carbonates, and/or dialkyl carbonates, and aliphatic diols comprising 20-80 parts adducts of 2,2'-bis(4-hydroxyphenyl)propane (I) and alkylene oxides and 20-80 parts 1,6-hexanediol (II). Thus, I and 2 mol equiv of ethylene oxide were treated to give an adduct, 2.28 mol of which was treated with 8.55 mol di-Me carbonate and 6.27 mol II to obtain a polycarbonate diol, 100 parts of which was copolymd. with 1,4-butanediol and 35.6 parts 4,4'-diphenylmethane diisocyanate in DMF to obtain a polyurethane. It was applied on a release paper and dried to give a film showing elongation 524%, 100%-modulus 104 (at -10°) and 208 kg/cm<sup>2</sup> (at -30°), and 300%-modulus 300 (at -10°) and 713 kg/cm<sup>2</sup> (at -30°), vs. 188, 403, 728, and unmeasurable, resp., for the polyurethane prepared using a polycarbonate diol prepared without the adduct.

IT 139644-53-4P

(films, preparation of, with high modulus at low temps.)

RN 139644-53-4 HCAPLUS

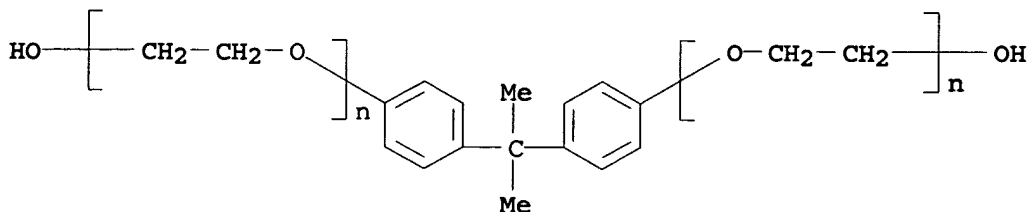
CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol, 1,6-hexanediol, 1,1'-methylenebis[4-isocyanatobenzene] and  $\alpha,\alpha'$ -[(1-methylethylidene)di-4,1-phenylene]bis[ $\omega$ -hydroxypoly(oxy-1,2-ethanediyl)] (9CI) (CA INDEX NAME)

CM 1

CRN 32492-61-8

CMF (C2 H4 O)<sub>n</sub> (C2 H4 O)<sub>n</sub> C15 H16 O2

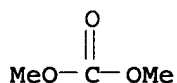
CCI PMS



CM 2

CRN 629-11-8  
CMF C6 H14 O2HO-(CH<sub>2</sub>)<sub>6</sub>-OH

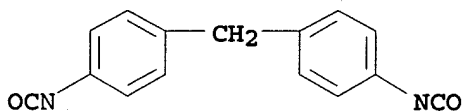
CM 3

CRN 616-38-6  
CMF C3 H6 O3

CM 4

CRN 110-63-4  
CMF C4 H10 O2HO-(CH<sub>2</sub>)<sub>4</sub>-OH

CM 5

CRN 101-68-8  
CMF C15 H10 N2 O2

IT 139644-52-3P

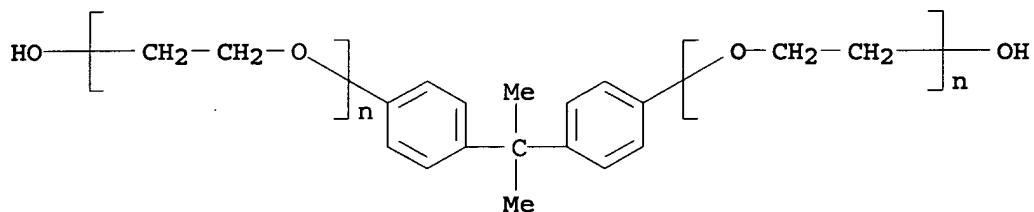
(preparation of, for polyurethanes with good modulus at low temperature)

RN 139644-52-3 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and  
 $\alpha, \alpha'$ -[(1-methylethylidene)di-4,1-phenylene]bis[ $\omega$ -  
hydroxypoly(oxy-1,2-ethanediyl)] (9CI) (CA INDEX NAME)

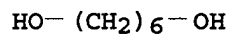
CM 1

CRN 32492-61-8  
CMF (C2 H4 O)<sub>n</sub> (C2 H4 O)<sub>n</sub> C15 H16 O2  
CCI PMS



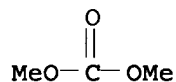
CM 2

CRN 629-11-8  
CMF C6 H14 O2



CM 3

CRN 616-38-6  
CMF C3 H6 O3



IC ICM C08G064-02  
ICS C08G018-44  
CC 35-5 (Chemistry of Synthetic High Polymers)  
IT 139644-53-4P  
(films, preparation of, with high modulus at low temps.)  
IT 139644-52-3P  
(preparation of, for polyurethanes with good modulus at low temperature)

L54 ANSWER 66 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1991:248043 HCAPLUS

DOCUMENT NUMBER: 114:248043

TITLE: Efficient and simple preparation of aliphatic polycarbonate diols

INVENTOR(S): Kiso, Yoshihisa; Shimamoto, Kenji

PATENT ASSIGNEE(S): Mitsui Petrochemical Industries, Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02284918	A2	19901122	JP 1989-108943	1989



0427

PRIORITY APPLN. INFO.:

<--  
JP 1989-1089431989  
0427

AB In the title preparation, (MeO)<sub>2</sub>CO is heated with aliphatic diols at 130-250° and mol ratio 0.5-1.7:1 in the presence of catalysts with distillation of MeOH. Heating 1.56 mol (MeO)<sub>2</sub>CO with 1.25 mol 1,6-hexanediol and 0.03 g (iso-PrO)<sub>4</sub>Ti at 200° and .apprx.19 kg/cm<sup>2</sup> for 2 h, distilling MeOH and unreacted (MeO)<sub>2</sub>CO, and heating the residue 200°/20-5 mm for 2 h gave 152 g polycarbonate with number-average mol. weight 1530, terminal OH 99.7%, and terminal OCO<sub>2</sub>Me 0.3%; vs. 3980, 1.9, and 98.1%, resp., when the carbonate-diol mol ratio was 5.0:1.

IT 101325-00-2DP, Dimethyl carbonate-1,6-hexanediol copolymer, hydroxyl-terminated  
(efficient and simple preparation of)

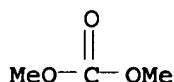
RN 101325-00-2 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI)  
(CA INDEX NAME)

CM 1

CRN 629-11-8  
CMF C6 H14 O2HO-(CH<sub>2</sub>)<sub>6</sub>-OH

CM 2

CRN 616-38-6  
CMF C3 H6 O3

IC ICM C08G064-30

CC 35-5 (Chemistry of Synthetic High Polymers)

IT 24937-06-2DP, Poly(oxycarbonyloxy-1,6-hexanediyl), hydroxyl-terminated 101325-00-2DP, Dimethyl carbonate-1,6-hexanediol copolymer, hydroxyl-terminated  
(efficient and simple preparation of)

L54 ANSWER 67 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1990:479758 HCAPLUS

DOCUMENT NUMBER: 113:79758

TITLE: Polycarbonatediol composition and polyurethane resin

INVENTOR(S): Murai, Takaaki; Fujii, Tatsumi

PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan

SOURCE: Eur. Pat. Appl., 8 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

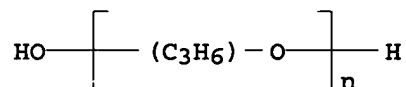
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 358555	A2	19900314	EP 1989-402396	1989 0901
EP 358555	A3	19910508	<--	
R: CH, DE, FR, GB, IT, LI				
JP 02175721	A2	19900709	JP 1989-113236	1989 0502
JP 2879685	B2	19990405	<--	
JP 02255822	A2	19901016	JP 1989-114686	1989 0508
JP 2844466	B2	19990106	<--	
US 5100999	A	19920331	US 1989-403434	1989 0906
PRIORITY APPLN. INFO.:			<--	
			JP 1988-223893	A 1988 0906
			<--	
			JP 1988-319826	A 1988 1219
			<--	
			JP 1989-113236	A 1989 0502
			<--	
			JP 1989-114686	A 1989 0508
			<--	
AB	The title polycarbonates, useful in preparation of polyurethanes with high strength and heat and moisture resistance, and good low-temperature properties, are prepared by reaction of compds. requiring dehydrochlorination, alkylene carbonates, diaryl carbonates, or dialkyl carbonates with diol mixts. containing 20-80% polyether (mol. weight 300-2000) and 20-80% C<20 polyvalent alcs. A mixture of dimethylcarbonate 620, 1,6-hexanediol 740, polytetramethylene glycol (mol. weight 830) 640, and Ti(Obu) <sub>4</sub> 0.30 g was boiled with distillation of MeOH, giving a polycarbonatediol (I) with OH number 55.2 and m.p. 30°. A polyurethane prepared from I 100, 1,4-butanediol 8.3, and MDI 35.6 in DMF 267.3 part was cast into a 150 µm (dry) film with 100% elongation modulus 49, 71, and 162 kg/cm <sup>2</sup> at room temperature, -10°, and -30°, resp., vs. 69, 728, and 403, resp., using a polycarbonatediol not containing the polyether.			
IT	128702-63-6P 128724-57-2P 128724-58-3P 128724-59-4P 128724-60-7P			

(preparation of, for polyurethanes with good low temperature properties)

RN 128702-63-6 HCAPLUS  
 CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and  
 $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-1,2-ethanediyl)]  
 (9CI) (CA INDEX NAME)

CM 1

CRN 25322-69-4  
 CMF (C3 H6 O)<sub>n</sub> H2 O  
 CCI IDS, PMS



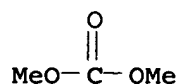
CM 2

CRN 629-11-8  
 CMF C6 H14 O2



CM 3

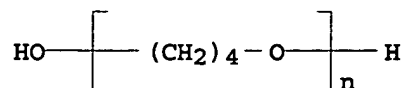
CRN 616-38-6  
 CMF C3 H6 O3



RN 128724-57-2 HCAPLUS  
 CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and  
 $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy-1,4-butanediyl] (9CI) (CA  
 INDEX NAME)

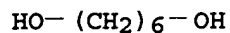
CM 1

CRN 25190-06-1  
 CMF (C4 H8 O)<sub>n</sub> H2 O  
 CCI PMS



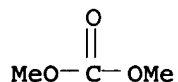
CM 2

CRN 629-11-8  
CMF C6 H14 O2



CM 3

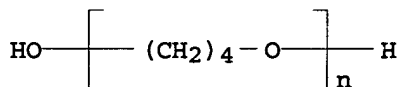
CRN 616-38-6  
CMF C3 H6 O3



RN 128724-58-3 HCAPLUS  
CN Carbonic acid, dimethyl ester, polymer with  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,4-butanediyl) and 3-methyl-1,5-pentanediol (9CI)  
(CA INDEX NAME)

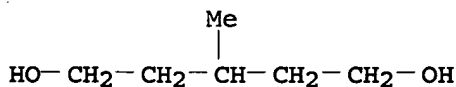
CM 1

CRN 25190-06-1  
CMF (C4 H8 O)<sub>n</sub> H2 O  
CCI PMS



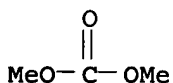
CM 2

CRN 4457-71-0  
CMF C6 H14 O2



CM 3

CRN 616-38-6  
CMF C3 H6 O3



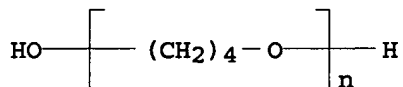
RN 128724-59-4 HCAPLUS  
 CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol and  
 $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,4-butanediyl) (9CI) (CA  
 INDEX NAME)

CM 1

CRN 25190-06-1

CMF (C4 H8 O)<sub>n</sub> H2 O

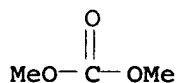
CCI PMS



CM 2

CRN 616-38-6

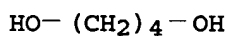
CMF C3 H6 O3



CM 3

CRN 110-63-4

CMF C4 H10 O2



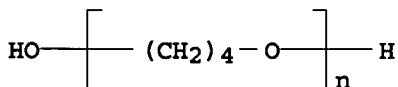
RN 128724-60-7 HCAPLUS  
 CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol,  
 $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,4-butanediyl) and  
 3-methyl-1,5-pentanediol (9CI) (CA INDEX NAME)

CM 1

CRN 25190-06-1

CMF (C4 H8 O)<sub>n</sub> H2 O

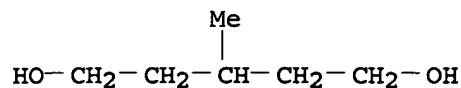
CCI PMS



CM 2

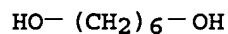
CRN 4457-71-0

CMF C6 H14 O2



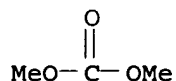
CM 3

CRN 629-11-8  
CMF C6 H14 O2



CM 4

CRN 616-38-6  
CMF C3 H6 O3



IT 128702-64-7P 128724-61-8P 128724-62-9P  
128724-63-0P 128724-64-1P

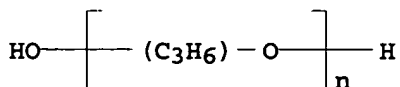
(preparation of, with good low temperature properties)

RN 128702-64-7 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol,  
1,6-hexanediol and  $\alpha$ -hydro- $\omega$ -hydroxypoly[oxy(methyl-  
1,2-ethanediyl)] (9CI) (CA INDEX NAME)

CM 1

CRN 25322-69-4  
CMF (C3 H6 O)<sub>n</sub> H2 O  
CCI IDS, PMS



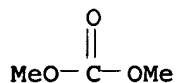
CM 2

CRN 629-11-8  
CMF C6 H14 O2



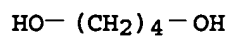
CM 3

CRN 616-38-6  
CMF C3 H6 O3



CM 4

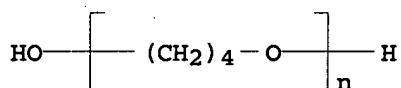
CRN 110-63-4  
CMF C4 H10 O2



RN 128724-61-8 HCAPLUS  
CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol, 1,6-hexanediol,  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,4-butanediyl) and 1,1'-methylenebis[4-isocyanatobenzene] (9CI) (CA INDEX NAME)

CM 1

CRN 25190-06-1  
CMF (C4 H8 O)<sub>n</sub> H2 O  
CCI PMS



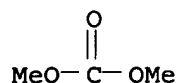
CM 2

CRN 629-11-8  
CMF C6 H14 O2



CM 3

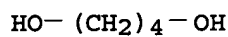
CRN 616-38-6  
CMF C3 H6 O3



CM 4

CRN 110-63-4

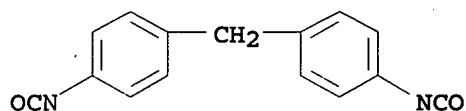
CMF C4 H10 O2



CM 5

CRN 101-68-8

CMF C15 H10 N2 O2



RN 128724-62-9 HCAPLUS

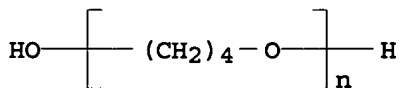
CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol,  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,4-butanediyl), 1,1'-methylenebis[4-isocyanatobenzene] and 3-methyl-1,5-pentanediol (9CI) (CA INDEX NAME)

CM 1

CRN 25190-06-1

CMF (C4 H8 O)<sub>n</sub> H2 O

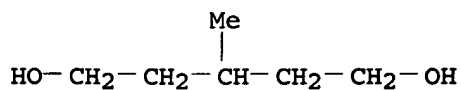
CCI PMS



CM 2

CRN 4457-71-0

CMF C6 H14 O2

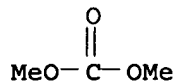




CM 3

CRN 616-38-6

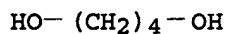
CMF C3 H6 O3



CM 4

CRN 110-63-4

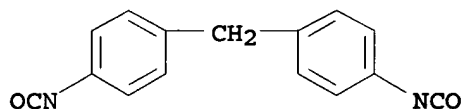
CMF C4 H10 O2



CM 5

CRN 101-68-8

CMF C15 H10 N2 O2



RN 128724-63-0 HCAPLUS

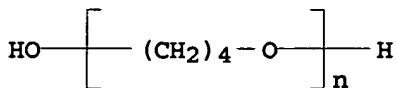
CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol, α-hydro-ω-hydroxypoly(oxy-1,4-butanediyl) and 1,1'-methylenebis[4-isocyanatobenzene], block (9CI) (CA INDEX NAME)

CM 1

CRN 25190-06-1

CMF (C4 H8 O)<sub>n</sub> H2 O

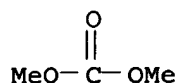
CCI PMS



CM 2

CRN 616-38-6

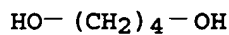
CMF C3 H6 O3



CM 3

CRN 110-63-4

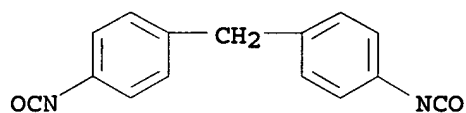
CMF C4 H10 O2



CM 4

CRN 101-68-8

CMF C15 H10 N2 O2



RN 128724-64-1 HCAPLUS

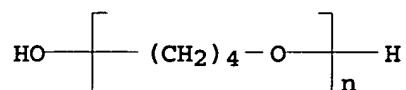
CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol, 1,6-hexanediol,  $\alpha$ -hydro- $\omega$ -hydroxypoly(oxy-1,4-butanediyl) and 3-methyl-1,5-pentanediol (9CI) (CA INDEX NAME)

CM 1

CRN 25190-06-1

CMF (C4 H8 O)<sub>n</sub> H2 O

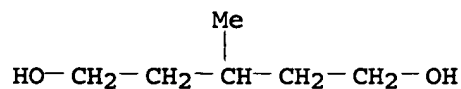
CCI PMS



CM 2

CRN 4457-71-0

CMF C6 H14 O2



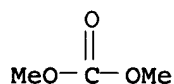
CM 3

CRN 629-11-8  
CMF C6 H14 O2

HO-(CH<sub>2</sub>)<sub>6</sub>-OH

CM 4

CRN 616-38-6  
CMF C3 H6 O3



CM 5

CRN 110-63-4  
CMF C4 H10 O2

HO-(CH<sub>2</sub>)<sub>4</sub>-OH

IC ICM C08G064-02  
ICS C08G064-18; C08G064-30; C08G018-44  
CC 37-3 (Plastics Manufacture and Processing)  
IT 128702-63-6P 128724-57-2P 128724-58-3P  
128724-59-4P 128724-60-7P  
(preparation of, for polyurethanes with good low temperature properties)  
IT 128702-64-7P 128724-61-8P 128724-62-9P  
128724-63-0P 128724-64-1P  
(preparation of, with good low temperature properties)

L54 ANSWER 68 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN  
ACCESSION NUMBER: 1990:407469 HCAPLUS  
DOCUMENT NUMBER: 113:7469  
TITLE: Low-melting polycarbonate diols for  
polyurethane manufacture  
INVENTOR(S): Murai, Takaaki; Fujii, Tatsumi  
PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan  
SOURCE: Eur. Pat. Appl., 9 pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 343572	A2	19891129	EP 1989-109201	1989 0522

EP 343572 A3 19901107 <--  
 EP 343572 B1 19961002  
 R: CH, DE, FR, GB, IT, LI  
 JP 02158617 A2 19900619 JP 1988-311452  
 1988  
 1209

JP 2884088 B2 19990419 <--  
 US 4978691 A 19901218 US 1989-356909  
 1989  
 0525

JP 02049025 A2 19900219 JP 1989-133475 <--  
 1989  
 0526

PRIORITY APPLN. INFO.: JP 1988-127083 A <--  
 1988  
 0526

JP 1988-311452 A <--  
 1988  
 1209

AB Title diols, useful for manufacture of polyurethanes with good mech. strength and heat and moisture resistance, are prepared by polymerization of organic carbonates with a mixture containing 20-80% 1,6-hexanediol (I) and 20-80% C3-20 polyols having side chains. Thus, 814 g Me2CO3 was polymerized with 677 g I and 149 g neopentyl glycol in the presence of 0.16 g (BuO)4Ti at 200° to give a wax (II) with OH number 56.8 and m.p. 22-25°. II (100 parts) was polymerized with 8.3 parts 1,4-butanediol and 35.6 parts MDI in DMF at 60° to give a polyurethane that was cast to form a 150-µm film with 100% modulus 63, 114, and 419 kg/cm2 at room temperature, -10°, and -30°, resp., 300% modulus 205 and 508 kg/cm2 at room temperature and -10°, resp., strength 622 kg/cm2 at room temperature, and elongation 445% at room temperature  
 IT 127695-57-2P 127695-58-3P 127695-59-4P  
 (manufacture of low-melting, for polyurethanes)  
 RN 127695-57-2 HCAPLUS  
 CN Carbonic acid, dimethyl ester, polymer with 2,2-dimethyl-1,3-propanediol and 1,6-hexanediol (9CI) (CA INDEX NAME)

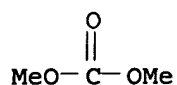
CM 1

CRN 629-11-8  
 CMF C6 H14 O2

HO-(CH2)6-OH

CM 2

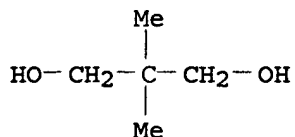
CRN 616-38-6  
 CMF C3 H6 O3



CM 3

CRN 126-30-7

CMF C5 H12 O2



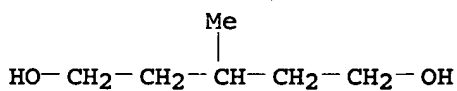
RN 127695-58-3 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and 3-methyl-1,5-pentanediol (9CI) (CA INDEX NAME)

CM 1

CRN 4457-71-0

CMF C6 H14 O2



CM 2

CRN 629-11-8

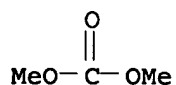
CMF C6 H14 O2



CM 3

CRN 616-38-6

CMF C3 H6 O3



RN 127695-59-4 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and trimethyl-1,6-hexanediol (9CI) (CA INDEX NAME)

CM 1

CRN 27476-48-8

CMF C9 H20 O2

CCI IDS

HO-(CH<sub>2</sub>)<sub>6</sub>-OH

3 ( D1-Me )

CM 2

CRN 629-11-8

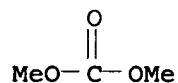
CMF C6 H14 O2

HO-(CH<sub>2</sub>)<sub>6</sub>-OH

CM 3

CRN 616-38-6

CMF C3 H6 O3



IT 127695-60-7P

(rubber, manufacture of, with good low-temperature mech. properties)

RN 127695-60-7 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,4-butanediol,  
 2,2-dimethyl-1,3-propanediol, 1,6-hexanediol and  
 1,1'-methylenebis[4-isocyanatobenzene], block (9CI) (CA INDEX  
 NAME)

CM 1

CRN 629-11-8

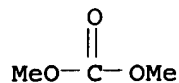
CMF C6 H14 O2

HO-(CH<sub>2</sub>)<sub>6</sub>-OH

CM 2

CRN 616-38-6

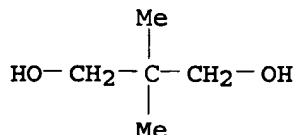
CMF C3 H6 O3



CM 3

CRN 126-30-7

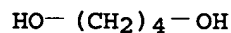
CMF C5 H12 O2



CM 4

CRN 110-63-4

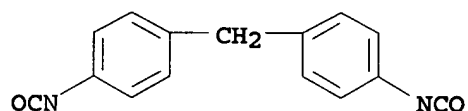
CMF C4 H10 O2



CM 5

CRN 101-68-8

CMF C15 H10 N2 O2



IC ICM C08G063-62

ICS C08G018-44

CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 39

IT 127695-57-2P 127695-58-3P 127695-59-4P

(manufacture of low-melting, for polyurethanes)

IT 127695-60-7P

(rubber, manufacture of, with good low-temperature mech. properties)

L54 ANSWER 69 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1990:180155 HCAPLUS

DOCUMENT NUMBER: 112:180155

TITLE: Preparation of aliphatic polycarbonate diols without catalysts

INVENTOR(S): Shimizu, Atsushi; Komiya, Kiyosuke

PATENT ASSIGNEE(S): Asahi Chemical Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01252629	A2	19891009	JP 1988-78241	1988 0401

PRIORITY APPLN. INFO.:

<--  
 JP 1988-78241  
 1988  
 0401

AB Title polymers are prepared by heating Me<sub>2</sub>CO<sub>3</sub> (I) and aliphatic diols at 120-280° with distillation of MeOH initially at 1 atm and then at reduced pressure. Me<sub>2</sub>CO<sub>3</sub> was added slowly to a mixture of 236 g HO(CH<sub>2</sub>)<sub>6</sub>OH and 208 g HO(CH<sub>2</sub>)<sub>5</sub>OH at 150-190° with distillation of MeOH containing 0-30% Me<sub>2</sub>CO<sub>3</sub>, the amount of added Me<sub>2</sub>CO<sub>3</sub> being 0.913 mol/mol diols. The system was gradually evacuated at 250-280° to 10 mm, maintained 3.5 h, evacuated to 0.05 mm, and maintained 15 min to give a polycarbonate diol (mol. weight .apprx.1300).

IT 126773-01-1P

(preparation of low-mol.-weight, hydroxy-terminated)

RN 126773-01-1 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and 1,5-pentanediol (9CI) (CA INDEX NAME)

CM 1

CRN 629-11-8

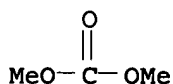
CMF C6 H14 O2

HO-(CH<sub>2</sub>)<sub>6</sub>-OH

CM 2

CRN 616-38-6

CMF C3 H6 O3



CM 3

CRN 111-29-5

CMF C5 H12 O2



HO-(CH<sub>2</sub>)<sub>5</sub>-OH

IC ICM C08G063-62  
 CC 35-5 (Chemistry of Synthetic High Polymers)  
 Section cross-reference(s): 37  
 IT 126773-01-1P  
 (preparation of low-mol.-weight, hydroxy-terminated)

L54 ANSWER 70 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1989:574911 HCAPLUS  
 DOCUMENT NUMBER: 111:174911  
 TITLE: Preparation of polycarbonatediols for slow  
 polyurethane formation reaction  
 INVENTOR(S): Aoyama, Mari; Okumura, Manabu; Yoshida, Teruo  
 PATENT ASSIGNEE(S): Toa Gosei Chemical Industry Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01024830	A2	19890126	JP 1987-180100	1987 0721
JP 06053794	B4	19940720	JP 1987-180100	1987 0721

AB Title polyols are prepared by heating polycarbonatediols in the presence of H<sub>2</sub>O. Thus, a mixture of 0.5 parts H<sub>2</sub>O and 750 parts polycarbonatediol (mol. weight 2100) (I) prepared from ethylene carbonate and 1,6-HO(CH<sub>2</sub>)<sub>6</sub>OH was heated at 90° for 4 h, and then dried at 50 torr and 120° to obtain polycarbonatediol containing ≤0.05% H<sub>2</sub>O. Thus, obtained diol (200 parts) was added at 70° at equivalent diphenylmethane-diisocyanate ratio. The time for viscosity of the reaction mixture reached to 500 cP was 7.8 min, vs. 3.9 min for the reaction using H<sub>2</sub>O-untreated I.

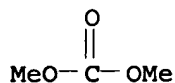
IT 123256-09-7P  
 (preparation of)  
 RN 123256-09-7 HCAPLUS  
 CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol and 1,1'-methylenebis[4-isocyanatobenzene] (9CI) (CA INDEX NAME)

CM 1

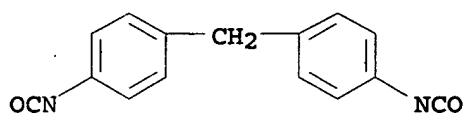
CRN 629-11-8  
 CMF C6 H14 O2

HO-(CH<sub>2</sub>)<sub>6</sub>-OH

CM 2

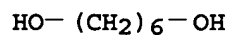
CRN 616-38-6  
CMF C3 H6 O3

CM 3

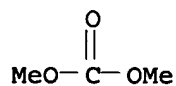
CRN 101-68-8  
CMF C15 H10 N2 O2

IT 101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer  
(preparation of, by heating in presence of water, for slow  
polyurethane-formation reaction)  
RN 101325-00-2 HCAPLUS  
CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI)  
(CA INDEX NAME)

CM 1

CRN 629-11-8  
CMF C6 H14 O2

CM 2

CRN 616-38-6  
CMF C3 H6 O3

IC ICM C08G063-62  
ICS C08G018-44; C09D003-72; C09J003-16  
CC 35-5 (Chemistry of Synthetic High Polymers)  
IT 123256-07-5P 123256-08-6P 123256-09-7P  
(preparation of)  
IT 29862-10-0P, Diphenyl carbonate-1,6-hexanediol copolymer  
61630-98-6P, Ethylene carbonate-1,6-hexanediol copolymer

101325-00-2P, Dimethyl carbonate-1,6-hexanediol copolymer  
(preparation of, by heating in presence of water, for slow  
polyurethane-formation reaction)

L54 ANSWER 71 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1988:550278 HCAPLUS

DOCUMENT NUMBER: 109:150278

TITLE: Manufacture of heat- and hydrolysis-resistant  
polycarbonate-polyols

INVENTOR(S): Nishimura, Katsuhide; Shirota, Kanji

PATENT ASSIGNEE(S): Dainippon Ink and Chemicals, Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63075030	A2	19880405	JP 1986-219135	1986 0919
JP 08032777	B4	19960329	JP 1986-219135	1986 0919

AB Discoloration-resistant polyols useful for manufacture of polyurethanes are prepared by transesterification of dialkyl or diaryl carbonates with alcs. in the presence of Ti or Sn compds. and 0.05-50 mol% (based on carbonates) alkylene carbonates. Heating (EtO)2CO 715, ethylene carbonate (I) 59, 1,6-hexanediol 799, and (iso-PrO)4Ti 0.055 part 1 h at 125°, 2 h at 150°, 2 h at 200°, and 2 h at 200°/10 mm gave a polycarbonate polyol with mol. weight 1000, OH number 110, and APHA color number 80; vs. 1000, 115, and 400, resp., without I.

IT 116737-10-1P

(preparation of, resistant to hydrolysis and discoloration)

RN 116737-10-1 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,3-dioxolan-2-one and 1,6-hexanediol (9CI) (CA INDEX NAME)

CM 1

CRN 629-11-8

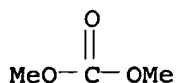
CMF C6 H14 O2

HO-(CH2)6-OH

CM 2

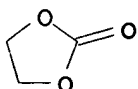
CRN 616-38-6

CMF C3 H6 O3



CM 3

CRN 96-49-1  
CMF C3 H4 O3



IC ICM C08G063-62  
CC 35-4 (Chemistry of Synthetic High Polymers)  
IT 116737-09-8P 116737-10-1P 116737-11-2P 116737-12-3P  
(preparation of, resistant to hydrolysis and discoloration)

L54 ANSWER 72 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1988:38658 HCAPLUS

DOCUMENT NUMBER: 108:38658

TITLE: Manufacture of polycarbonate diols with high quality and stability as starting materials for polyurethanes

INVENTOR(S): Murai, Takaaki; Fujii, Tatsumi; Watanabe, Masaharu

PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62187725	A2	19870817	JP 1986-21238	1986 0204
JP 07116284	B4	19951213	JP 1986-21238	1986 0204

AB The title polycarbonate diols are manufactured by treating (RO)2CO (I; [R = C1-6 alkyl, Ph) with HOR1OH (II; R1 = bivalent alc. residue), and treating the product having d.p. 1-10 with II. Thus, treating 1204 g I (R = methyl) with 394 g II (R1 = (CH2)6] (IV) in the presence of (BuO)4Ti gave a product with d.p. 1.80, 567 g of which was treated with 233 g IV at 200° to give polymer diol.

IT 101325-00-2P, Dimethylcarbonate-1,6-hexanediol copolymer (manufacture of hydroxy-terminated, 2-step, as intermediate for polyurethanes)

RN 101325-00-2 HCAPLUS  
CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI)  
(CA INDEX NAME)

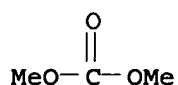
CM 1

CRN 629-11-8  
CMF C6 H14 O2

HO-(CH<sub>2</sub>)<sub>6</sub>-OH

CM 2

CRN 616-38-6  
CMF C3 H6 O3



IC ICM C08G063-62  
ICS C08G018-42

CC 35-5 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 37

IT 24937-06-2P 101325-00-2P, Dimethylcarbonate-1,6-  
hexanediol copolymer  
(manufacture of hydroxy-terminated, 2-step, as intermediate for  
polyurethanes)

L54 ANSWER 73 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1986:149611 HCAPLUS

DOCUMENT NUMBER: 104:149611

TITLE: Polycarbonate polyols

INVENTOR(S): Wada, Hachiro; Suzuki, Koichi; Katagiri,  
Masatake

PATENT ASSIGNEE(S): Nippon Polyurethane Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 60181125	A2	19850914	JP 1984-36159	1984 0229
			<--	
JP 04069179	B4	19921105	JP 1984-36159	1984 0229
PRIORITY APPLN. INFO.:				
			<--	

AB Dialkyl carbonates, alkylene carbonates, or diaryl carbonates and OH compds. are transesterified in the presence of epoxy compds. (0.002-0.2 mol epoxy group/1000 g polymer) and Ti compds. (0.0001-0.05% Ti, based on polymer) to prepare polycarbonate polyols rapidly with low discoloration. Thus, di-Et carbonate and 1,6-hexanediol were esterified in the presence of propylene oxide and  $\text{TiCl}_4$ .

IT 101325-00-2DP, hydroxy-terminated  
(manufacture of, in presence of titanium catalysts and epoxide discoloration prevention agents)

RN 101325-00-2 HCAPLUS

CN Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol (9CI)  
(CA INDEX NAME)

CM 1

CRN 629-11-8

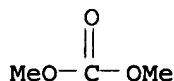
CMF C6 H14 O2

$\text{HO}-(\text{CH}_2)_6-\text{OH}$

CM 2

CRN 616-38-6

CMF C3 H6 O3



IC ICM C08G063-62

CC 35-3 (Chemistry of Synthetic High Polymers)

IT 24937-06-2DP, hydroxy-terminated 26894-28-0DP, hydroxy-terminated 29862-10-0DP, hydroxy-terminated 61412-63-3DP, hydroxy-terminated 61630-98-6DP, hydroxy-terminated 66837-11-4DP, hydroxy-terminated 66837-18-1DP, hydroxy-terminated 101324-99-6DP, hydroxy-terminated 101325-00-2DP, hydroxy-terminated 101325-01-3DP, hydroxy-terminated  
(manufacture of, in presence of titanium catalysts and epoxide discoloration prevention agents)

L54 ANSWER 74 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1984:209068 HCAPLUS

DOCUMENT NUMBER: 100:209068

TITLE: A novel clathrate design: selective inclusion of uncharged molecules via the binaphthyl hinge and appended coordinating groups. X-ray crystal structures and binding modes of 1,1'-binaphthyl-2,2'-dicarboxylic acid host/hydroxylic guest inclusions

AUTHOR(S): Weber, Edwin; Csoregh, Ingeborg; Stensland, Brigitta; Czugler, Matyas

CORPORATE SOURCE: Inst. Org. Chem. Biochem., Univ. Bonn, Bonn, D-5300/1, Fed. Rep. Ger.

SOURCE: Journal of the American Chemical Society  
(1984), 106(11), 3297-306  
CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal  
LANGUAGE: English

AB 1,1'-Binaphthyl-2,2'-dicarboxylic acid (I) is demonstrated as a novel type of clathrate host whose main mode of action is derived from a combination of the steric barrier and the coordinative interaction principle, which constitutes the new coordinatoclathrate strategy. Inclusion properties of the crystal lattice of I are revealed for a variety of uncharged organic guest mols. (30 examples), ranging from OH-, to NH-, to CH-acidic compds. such as alcs., carboxylic acids, amides, and nitriles to rather unpolar compds. like PhBr and PhMe. Marked discrimination selectivities in clathrate formation from solvent mixts. are found in regard to the group functionality, the substitution pattern, and the mol. size of the guest species, making accessible a simple process for chemical compound separation. The stoichiometries and the increased-temperature as well as the reduced-pressure stabilities of the various clathrates are discussed. The principles of structure of 5 different alc. clathrates of I are determined by x-ray anal. In all these cases, however, hydroxy groups of the host mols. were found to be intercalated via large pseudo-ring formation between the carboxyl functions of at least 2 host units of opposite chirality with a different mode of H bridging. Depending on the host:guest stoichiometry (1:1 or 1:2) and the nature of the guest mols., these entities consist of 3, 4, or 8 moieties (COOH, OH). The directionality of the strong and cooperative bonds is always homodromic. The shape and the size of the cleft formed in the matrix of cooperating host moieties are shown to vary, matching the specific needs of coordinating interactions (H bonding) and topol. requirements (e.g., branching) of the guest species.

IT 89555-61-3P

(preparation of)

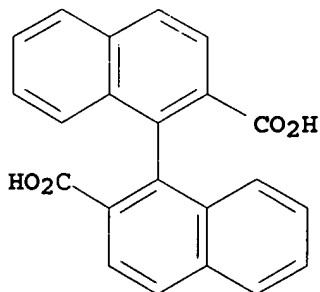
RN 89555-61-3 HCAPLUS

CN [1,1'-Binaphthalene]-2,2'-dicarboxylic acid, compd. with dimethyl carbonate (2:1) (9CI) (CA INDEX NAME)

CM 1

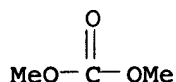
CRN 99827-46-0

CMF C22 H14 O4



CM 2

CRN 616-38-6  
CMF C3 H6 O3



CC 22-13 (Physical Organic Chemistry)

Section cross-reference(s): 75

IT 89555-42-0P 89555-44-2P 89555-46-4P 89555-47-5P  
89555-48-6P 89555-49-7P 89555-50-0P 89555-51-1P  
89555-52-2P 89555-53-3P 89555-55-5P 89555-56-6P  
89555-57-7P 89555-58-8P 89555-59-9P 89555-61-3P  
89555-62-4P 89555-63-5P 89555-64-6P 89555-65-7P  
89555-67-9P 89577-84-4P 102996-81-6P 102996-82-7P  
102996-83-8P  
(preparation of)

L54 ANSWER 75 OF 75 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1984:86733 HCAPLUS

DOCUMENT NUMBER: 100:86733

TITLE: Composition based on aliphatic polycarbonates which contain urethane groups and acrylic or methacrylic end groups, to be crosslinked in the presence of radical initiators

INVENTOR(S): Priola, Aldo; Romano, Ugo; Renzi, Fiorenzo

PATENT ASSIGNEE(S): Anic S.p.A., Italy

SOURCE: Eur. Pat. Appl., 32 pp.

CODEN: EPXXDW

DOCUMENT TYPE:

Patent

LANGUAGE:

English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 92272	A1	19831026	EP 1983-200506	1983 0411
EP 92272	B1	19861112		
R: AT, BE, CH, DE, FR, GB, LI, LU, NL, SE				
AT 23548	E	19861115	AT 1983-200506	1983 0411
DK 8301622	A	19831016	DK 1983-1622	1983 0413
US 4544725	A	19851001	US 1983-484954	1983 0414
ES 521802	A1	19841216	ES 1983-521802	1983 0415



PRIORITY APPLN. INFO.:

<--  
IT 1982-20749

A

1982  
0415<--  
EP 1983-200506

A

1983  
0411

AB A composition based on aliphatic polycarbonates containing urethane groups and acrylic or methacrylic end groups, capable of being crosslinked in the presence of radical initiators, is prepared by treating diols with a dialkyl carbonate to give a polycarbonate intermediate which is then treated with a primary diamine to give a OH-terminated polyurethane-polycarbonate oligomer; this oligomer is subsequently treated with a diol and acrylic or methacrylic acid. Thus, a mixture of HO(CH<sub>2</sub>)<sub>6</sub>OH 94.6, diethylene glycol (I) 42.4, di-Me carbonate 90, and a 30% solution of MeONa in MeOH 216 g was stirred at 130° under 250 mm pressure for 2 h to give 155 g oligocarbonate containing 10.1% free OH group. The oligomer was treated with 34 g 1,3-bis(aminomethyl)cyclohexane at 120° for 7 h to give a polyurethane-polycarbonate (II) containing 10.9% free OH groups. A mixture of 100 mg phenothiazine, 200 mL C<sub>6</sub>H<sub>6</sub>, 30 g I, 70 g II, 76 g acrylic acid, and 1.5 g p-toluenesulfonic acid was heated under reflux for 12 h and worked up to give 140 g (91%) end product (III) [88804-04-0] having 0.3% free OH group, acid number 1.5, and Brookfield viscosity 320 cP (25°). III was UV irradiated in the presence of 3% benzyldimethyl ketal to give a crosslinked film having thickness 45 μ, Koenig hardness 62, flexibility at impact 60%, adhesion without tape 100%, adhesion with tape 80%, and 97% gel.

IT 88804-04-0P

(crosslinkable, manufacture of)

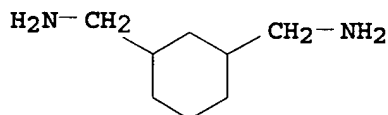
RN 88804-04-0 HCAPLUS

CN 2-Propenoic acid, polymer with 1,3-cyclohexanedimethanamine, dimethyl carbonate, 1,6-hexanediol and 2,2'-oxybis[ethanol] (9CI)  
(CA INDEX NAME)

CM 1

CRN 2579-20-6

CMF C8 H18 N2



CM 2

CRN 629-11-8

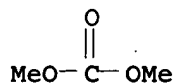
CMF C6 H14 O2

HO-(CH<sub>2</sub>)<sub>6</sub>-OH

CM 3

CRN 616-38-6

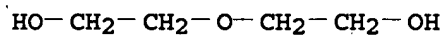
CMF C3 H6 O3



CM 4

CRN 111-46-6

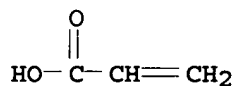
CMF C4 H10 O3



CM 5

CRN 79-10-7

CMF C3 H4 O2



IC C08G063-62; C08G018-44; C08G018-67; C08G071-04

CC 37-6 (Plastics Manufacture and Processing)

IT 88788-04-9P 88788-05-0P 88804-04-0P 88804-06-2P

88804-07-3P 88804-08-4P

(crosslinkable, manufacture of)